



YEAR BOOK 1981 AUSTRALIA

UNIVERSITY OF ILLINOIS AT
CHICAGO

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CHICAGO, IL. 60607



AUSTRALIA ENERGY RESOURCES

DEPARTMENT OF NATIONAL DEVELOPMENT

JUNE 1979



Kilometres 0 100 200 300 400

Mineral Name	Mine, Field or Area.			Refinery or Processing Plant
	Undeveloped	Being Developed	Producing	
Coal, Black	○	●	●	■
Coal, Brown	○	●	●	■
Natural Gas	△	●	●	■
Oil	□	●	●	■
Oil and Natural Gas	□	●	●	■
Oil Shale	□	●	●	■
Uranium	□	●	●	■

OTHER ENERGY SOURCES			
Potential Site	Under Construction	Operating	
Hydro-electric power	□	■	■
Tidal power	□	■	■

FUEL MOVEMENTS

- Railway
- Road
- Pipeline
- Oil
- Natural Gas



YEAR BOOK AUSTRALIA

YEAR BOOK

AUSTRALIA

No. 15, 1951

HA
3001
B53
NO. 65
1981
N/C
REF

YEAR BOOK

AUSTRALIA

No. 65, 1981

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AUSTRALIAN STATISTICIAN

AUSTRALIAN BUREAU OF STATISTICS
CANBERRA, AUSTRALIA

12 November

Registered by the Postmaster-General for transmission through the post as a book

ISSN 0312-4746



Commonwealth of Australia 1981

This book is in International B5 format,
the text is set in 9 on 10 point Times Roman
and printed on 65 gsm White Bank Opaque paper.

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GENERAL INFORMATION

Symbols

The following *symbols*, where shown in columns of figures or elsewhere in tables mean:

- n.a. not available
- n.y.a. not yet available
 - nil or rounded to zero
- .. not applicable
- n.p. not available for separate publication (but included in totals where applicable)
- p preliminary—figure or series subject to revision
- r figures or series revised since previous issue
- n.e.i. not elsewhere included
- n.e.c. not elsewhere classified
- break in continuity of series (where drawn across a column between two consecutive figures)
- m.—males; f.—females; p.—persons.

Other forms of usage

The following *abbreviations* are used for the titles of the Australian States and Territories and Australia: N.S.W. (New South Wales), Vic. (Victoria), Qld (Queensland), S.A. (South Australia), W.A. (Western Australia), Tas. (Tasmania), N.T. (Northern Territory), A.C.T. (Australian Capital Territory), Aust. (Australia).

In general, the *statistics in this volume relate to the States and Territories of Australia*, i.e. they exclude particulars of the External Territories of Australia, which, however, are specifically dealt with in Chapter 27, The Territories of Australia. A few series elsewhere include particulars of Papua New Guinea because of the nature of the subject-matter; these series are indicated.

Yearly periods shown as e.g. 1979 refer to the year ended 31 December 1979; those shown as e.g. 1978-79 refer to the year ended 30 June 1979. Other yearly periods are specifically indicated. The range of years shown in table heading, e.g. 1901 to 1978-79; indicates the period covered, but does not necessarily imply that each intervening year is included.

Values are shown in Australian dollars (\$) or cents (c) unless another currency is specified.

Catalogue numbers. Throughout this book references are made to ABS publications. In each case the catalogue number is shown in brackets; this should be quoted when ordering these publications (*see below*).

Where figures have been rounded, *discrepancies may occur between sums of the component items and totals.*

Availability of ABS publications

Information regarding the availability of ABS publications can be obtained from the Information Services Section, Australian Bureau of Statistics, P.O. Box 10, Belconnen, A.C.T. 2616, Australia, phone (062) 52 6627, or from ABS offices in each capital city and in Darwin.

A complete list of ABS publications produced in Canberra and in each of the State Offices is contained in the *ABS Catalogue of Publications, Australia* (1101.0) which is available free of charge from any ABS office.

In some cases, the ABS can also make available information which is not published. This information may be made available in one or more of the following forms: microfiche, photocopy, data tape, computer printout, clerically—extracted tabulation. Generally, a charge is made for providing unpublished information. Inquiries may be made by contacting Information Services in the nearest ABS Office.

Atlas of Australian Resources, Volume 2—Population

The third series of this atlas was recently published by the Division of National Mapping, Department of National Development and Energy. Based on 1976 Census data, it presents in maps, diagrams and commentaries an authoritative summary of Australia's population.

PREFACE

By the Constitution of the Commonwealth of Australia, the Parliament of the Commonwealth is empowered, subject to the Constitution, 'to make laws for the peace, order, and good government of the Commonwealth, with respect to . . . Census and statistics.' In the exercise of the power so conferred, a Census and Statistics Act was passed in 1905, and in the year following the Commonwealth Bureau of Census and Statistics was created. During the late 1960s and early 1970s it became increasingly evident that new statistical legislation was required to enable the Bureau to respond to the changing needs of Government. As a consequence, the *Australian Bureau of Statistics Act*, 1975 was enacted in mid 1975. The Act came into operation from 3 May 1976. The legislation established the Australian Bureau of Statistics (ABS) as the central statistical authority for the Commonwealth Government, the office of the Australian Statistician and the Australian Statistics Advisory Council (ASAC).

The first Official Year Book was published early in 1908. This is the sixty-fifth Year Book issued under the authority of the Commonwealth Government. The Year Book is the principal general reference work produced by the Central Office of the Australian Bureau of Statistics. It provides a comprehensive and detailed statistical review of all aspects of the economy and social conditions of Australia, and in addition contains descriptive matter dealing with Australia's history, geography, physiography, climate and meteorology, government, defence and repatriation services, and international relations.

This issue contains a special article on the recent decline in Australian fertility. The article attempts to describe the demographic forces which bear on the current level of fertility and to isolate the contribution to the recent decline in terms of changes in reproductive patterns, marriages and the timing of births.

In the various chapters of the Year Book, and in the special index which precedes the general index, there are references to special articles, background material and items of historic interest which have appeared in previous issues.

Most of the statistics contained in the volume relate to the years ended June or December 1979 or 1980. More detailed and in many cases more recent statistics on subjects dealt with in the Year Book are available in other ABS publications. These publications are listed in the *ABS Catalogue of Publications, Australia (1101.0)*.

My thanks are tendered to the responsible officers of the various Commonwealth and State Departments and Organisations who have kindly supplied material for the preparation of the Year Book.

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May 1981

CHAPTER 1

FROM PRE-HISTORY TO FEDERATION

Early knowledge and discovery of Australia

Pre-history

Man entered the Australian continent from the South-East Asian area during the last glaciation at least 40,000 years ago, when sea levels were lower than in recent times. Nevertheless, these first migrations would have entailed sea voyages of at least some 60 kilometres. Settlement was well established at least 25,000 to 30,000 years ago, and by 20,000 years ago almost all the continent was inhabited.

The original Australians, the Aborigines, probably achieved maximum exploitation of local resources within the limits of their technology. Population balance had apparently been attained long before European settlement, and anthropologists accept that there were at least some 250,000 to 300,000 Aborigines in Australia in 1788.

The physical barriers of distance and aridity within Australia itself were cause in part of the cultural isolation and linguistic diversity of its people. European exploration and settlement was for most Aboriginal societies their first contact with an outside culture. The impact of this settlement led rapidly to the disappearance of the traditional Aboriginal way of life in those areas where the colonists established themselves most successfully.

More detailed notes on Aboriginal culture can be found in Year Book No. 63.

Terra Australis

Although references to an Austral land are found in the works of writers in the early centuries after Christ, and evidence appears in maps, globes, and manuscripts from the Middle Ages onward, there is no definite evidence connecting this so-called *Terra Australis* with Australia. Cornelius Wytfliet's map of 1597, however, indicates roughly the eastern and western coasts of Australia, as well as the Gulf of Carpentaria.

Early discoveries of Australia

The Portuguese may have discovered part of the Australian coast before 1542, and it has been suggested that the Arabs may have come to Australia even earlier, though there is no evidence to support this theory. For all practical purposes, however, the coastal exploration of Australia may be taken as having begun with the Spaniards and the Dutch.

Discoveries by the Spanish

In 1606 the Spaniard, Quiros, on reaching the island that has retained the name of Espiritu Santo (the largest island of the New Hebrides group), thought he had discovered the great land of the south and therefore named the group *La Australia del Spiritu Santo*. After leaving the New Hebrides, Quiros sailed eastward, but Torres, his second-in-command, took a westerly course and passed through the strait that now bears his name. In all probability he sighted the Australian continent, although no mention of it is made in his records.

Discoveries by the Dutch

A map published by Cornelius Wytfliet in 1597 had indicated roughly the eastern and western coast of Australia, as well as the Gulf of Carpentaria.

The Dutch first explored the coast of Australia when, during 1606, the yacht *Duyfken* having coasted along the southern shores of New Guinea, followed the west coast of Cape York Peninsula as far as Cape Keer-Weer (Turn Again). Subsequent visits were made by Hartog (1616), de Houtman (1619), Carstensen (1623), Thijssen (1627), Pelsaert (1629), Tasman (1642) and others, so that by 1644 the Dutch had discovered and explored the Australian coast from Fowler's Bay in the South to the tip of Cape York Peninsula, as well as the south of Tasmania.

More detailed notes on discoveries by the Dutch can be found in Year Book No. 63.

Discoveries by the English

In the meantime, the English had made their first appearance on the Australian coast in 1688, when the north-westerly shores were visited by William Dampier as supercargo of the *Cygnnet*, a trading vessel whose crew had turned buccaneers. In 1699 he again visited Australia in command of H.M.S. *Roebuck* and, on his return to England, published an account in which a description was given of trees, flowers, birds, and reptiles observed, and of encounters with natives.

At the end of the seventeenth century it was uncertain whether Tasmania and New Zealand were parts of Australia or whether they were separated from it but themselves formed part of a great Antarctic Continent. Lieutenant (later Captain) James Cook's first voyage, though undertaken primarily for the purpose of observing from Tahiti the transit of Venus, had also the objective of ascertaining whether the unexplored part of the southern hemisphere was only an immense mass of water or whether it contained another continent. In command of H.M.S. *Endeavour*, and accompanied by botanist Sir Joseph Banks, naturalist Dr Daniel Solander, astronomer Charles Green, draughtsmen and servants, Cook, after observing the transit of Venus at Tahiti, turned towards New Zealand, sighting that land on 7 October 1769 in the neighbourhood of Poverty Bay.

On 20 April 1770, Cook sighted the Australian mainland at a place he called Point Hicks, naming it after his first-lieutenant, who first saw it. Coasting northwards, on 29 April 1770 he discovered Botany Bay, where he landed. Cook sailed along the coast in a northerly direction for nearly 2,100 kilometres until 11 June 1770, when the *Endeavour* was seriously damaged by striking a coral reef in the vicinity of Trinity Bay. Repairs occupied nearly two months, and the *Endeavour* then again set her course to the north, through Torres Strait.

More detailed notes on Cook's voyages can be found in Year Book No. 63.

The annexation of Australia

Possession taken of eastern coast of Australia by Captain Cook

On 22 August 1770, the history of Australia was brought into definite political connection with western civilisation when Captain Cook took possession 'of the whole eastern coast, from latitude 38°S. to this place, latitude 10½°S. in right of His Majesty King George the Third', i.e. over only what now is Victoria, the eastern parts of New South Wales and Queensland.

Annexation of eastern part of Australian continent and Tasmania

Formal possession on behalf of the British Crown of the whole of the eastern part of the Australian continent and Tasmania was not taken until 26 January 1788, when Captain Phillip's commission, first issued to him on 12 October 1786 and amplified on 2 April 1787, was read to the people whom he had brought with him in the 'First Fleet'. The commission appointed Phillip 'Captain-General and Governor-in-Chief in and over our territory called New South Wales, extending from the Northern Cape or extremity of the coast called Cape York, in the latitude of ten degrees thirty-seven minutes south, to the southern extremity of the said territory of New South Wales or South Cape, in the latitude of forty-three degrees thirty-nine minutes south and of all the country inland westward as far as the one hundred and thirty-fifth degree of east longitude reckoning from the meridian of Greenwich, including all the islands adjacent in the Pacific Ocean within the latitudes aforesaid of ten degrees thirty-seven minutes south and forty-three degrees thirty-nine minutes south'.

By the middle of 1829, the whole territory, now known as Australia, had been constituted a dependency of the United Kingdom.

For more detailed notes on the annexation of Australia, see Year Book No. 63.

The exploration of Australia

Early exploration

From 1788, when Governor Phillip established his colony on the shores of Port Jackson, expeditions began to explore the immediate area of settlement in search of good farming land. Among suitable locations discovered were those just above the head of navigation of the Parramatta River, where the settlement of Rose Hill (later Parramatta) was established in November 1788, and the alluvial flats of the Hawkesbury River, which were explored in 1789.

Other minor exploratory journeys in the 1790s and early 1800s included John Wilson's two investigations of various parts of the Southern Highlands of New South Wales, Lieutenant John Shortland's discovery of the Hunter River (and the future site of Newcastle), and expeditions by Henry Hacking (1794), George Bass (1796), Francis Barrallier (1802) and George Caley (1804) to penetrate the mountain foothills west of the Nepean River.

By the end of the first two decades of colonisation, settlement stretched along the east coast from the Hawkesbury River to the cedar forests of Illawarra, but for barely 65 kilometres inland, where it was compacted by the seemingly impenetrable barrier presented by the Blue Mountains.

The encumberment on the existing land persisted until 1813, when Gregory Blaxland, Lieutenant William Lawson and William Charles Wentworth succeeded in finding a route through the mountain range, thereby allowing the later exploratory parties of George William Evans (1813 and 1815), John Oxley (1817 and 1818), Allan Cunningham (1823 and 1827), Hamilton Hume and William Hovell (1824) and others to open the way for expansion from Port Phillip in the south to the Darling Downs in the north.

Exploring the eastern rivers and to the south

Between 1828 and 1841, exploration of south-eastern Australia was concerned mainly with establishing whether or not there was a large river system emptying into the sea on the south coast.

Between late 1828 and early 1829, an expedition led by Charles Sturt followed the Macquarie River to its meeting with the Darling River and explored part of the Castlereagh River. On his next expedition, in 1830, Sturt pieced together more of the network of waterways which make up the Murray-Darling system by following the Murrumbidgee River from Jugiong down to the river's meeting with the Murray, which he followed as far as Lake Alexandrina and Encounter Bay on the southern coastline. Three years later, Sturt completed his exploration of the Murray by investigating its upper reaches.

Meanwhile, Captain John MacArthur and others had discovered that merino sheep were naturally suited to the dry climate of the interior. The colony's wool industry flourished and, by 1831, 1,340,000 kilograms of fine wool was being exported annually. As a result of the wool boom, settlers became anxious to push further into the interior in search of new pastures.

During three expeditions between 1831 and 1836, Thomas Livingstone Mitchell explored north of the Liverpool Plains and discovered the Macintyre River; discovered well-grassed country at the junction of the Darling and Bogan Rivers; and explored the Lachlan River to its meeting with the Murrumbidgee River, the Murray to its meeting with the Darling River, and south and south-east of the Murray through the region he called 'Australia Felix' to Discovery Bay on the southern coast.

Gradually, the push south continued. In 1838, Angus McMillan discovered a practicable route from Monaro to the southern coastline, and, in 1840, Paul Edmund de Strzelecki made a journey from the Murrumbidgee River south to Melbourne, during which he discovered and named Mount Kosciusko.

Exploring the south

By the mid-to late-1830s, all south-eastern Australia up to the present Queensland border had been explored and was sparsely settled.

In 1831, Captain Collet Barker landed at what was to become Port Adelaide and, by the late 'thirties, cattle-droving journeys undertaken by Joseph Hawdon, Charles Bonney, Charles Sturt and E. J. Eyre had established links between the settlement of Adelaide and the settlements in the east.

In August 1844, Charles Sturt led a sixteen-man expedition from Adelaide into the interior with instructions to investigate a theory that there was an inland sea. After much hardship and near disaster during what was a period of exceptional heat and drought in the region, Sturt found the channels of Cooper's Creek, part of the inland river system of Queensland, dispersed among grassy plains. However, with the waters drying up rapidly in the November (1845) heat and his health deteriorating, Sturt was forced to retreat, declaring the land to be worthless.

Exploring north-eastern Australia

In 1844-45, Ludwig Leichhardt left Jimbour Station on the Darling Downs to lead an expedition on an epic 14½ month, 4,800 kilometres journey north and north-west to Port Essington, thereby winning a reputation for opening up large tracts of rich land. In 1848, however, he and his party disappeared without trace while on another expedition attempting to cross the continent to Perth. Paradoxically much valuable incidental exploration was carried out by a number of search parties.

Meanwhile, Thomas Mitchell's fourth expedition, in 1846, had failed in its objective of finding a river which flowed to the northern coast, but led to the opening up of good pastoral country in the Maranoa and Barcoo Rivers regions.

In 1848, E. B. Kennedy was speared to death by local Aborigines while exploring the interior of Cape York Peninsula from Rockingham Bay to the Cape.

In the mid-to late-1850s, Angus C. Gregory led two expeditions: one, in 1855-56, across northern Australia in a west-east direction from the mouth of the Victoria River to the east coast at Port Curtis; and the other, in 1858, from the Barcoo River south to Adelaide.

Exploration of what was by then the new colony of Queensland was continued through the 1860s and 1870s by George Dalrymple, Ernest Henry, the Macdonald brothers, William Hann, James Venture Mulligan, R. L. Jack and others, which led to the founding of such towns as Bowen, Rockhampton and Mackay, and the opening up of much valuable farming land.

Across the continent south to north

In the late 1850s and early 1860s, most exploratory interest was concentrated on Central Australia, especially after April 1860, when John McDouall Stuart raised a Union Jack on what he considered to be the geographic centre of the continent, Central Mount Stuart. The South Australian Government offered a large reward to the first explorer to cross Australia from south to north.

In August 1860, Robert O'Hara Burke and W. J. Wills set out from Melbourne with a large party to take up the challenge. On 11 February 1861, four expedition members (Burke, Wills, John King and Charles Gray) reached a mangrove swamp on what appeared to be the coast at the Gulf of Carpentaria (though they could not see the sea). After a succession of sorry incidents, however, Burke, Wills and Gray died of exposure and starvation on the return journey.

As in the case of Leichhardt, search parties sent out after Burke and Wills discovered much valuable land in their own right: John McKinlay led an expedition from Adelaide to the north-east; William Landsborough from the Gulf of Carpentaria southward; and Frederick Walker from Rockhampton to the west.

Meanwhile, John McDouall Stuart had set out from Adelaide on his own expedition across Australia and, in July 1862, reached the sea at Van Diemen Gulf.

Exploring the west

As early as 1697, Willem de Vlamingh of the Dutch ship *Geelvinck* had carried out limited inland exploration on the west coast of Australia in the vicinity of what he named the Swan River. However, the first major inland exploration in the colony of Western Australia took place 130 years later when, in 1827, Edmund Lockyer explored the watershed of the Kalgan River to within about 60 kilometres of its mouth.

In the 1830s, exploration and settlement was mainly to the south of Perth (founded in 1829), although, as the soil grew richer, dense hardwood forests made land-clearing difficult. Among the explorers during this decade were Ensign Robert Dale, who found the rich agricultural land of the Avon Valley (1830); Lieutenant H. W. Bunbury, who opened the way to rich pastoral flats in the south-west (1836); and Captain George Grey, who discovered the rich hinterland that now serves Geraldton (1839).

During the 1840s, J. S. Roe, who had also conducted several exploratory journeys during the 1830s, discovered good grazing country while on a 2,900 kilometres York-Pallinup River-Russell Range-Bunbury-Perth trek (1848).

In the 1850s and 1860s, the south-west was extensively occupied as far south as Albany and Kojonup, while to the north the Greenough district quickly became the principal wheat-producing region.

Due largely to the efforts of Grey in the 1830s, the Gregory brothers in the 1840s, 1850s and 1860s, and the Forrest brothers in the 1860s and 1870s, pastoralists were able gradually to push further north to occupy the Murchison, Gascoyne and De Grey districts. By the 1880s, again due largely to exploration by the Forrest brothers, even the Kimberley region was being settled.

Meanwhile, journeys to, or in, the east and south-east of Western Australia by E. J. Eyre (1841), E. A. Delisser (1861), John Forrest (1870) and others had gradually filled in many 'blanks' in those directions also.

Exploring the hinterland

In 1875, Ernest Giles set out from Beltana, South Australia, and made a 4,000 kilometre journey to Perth. Two years previous, two other parties, led by Peter Egerton Warburton and W. C. Gosse respectively, had explored west from the MacDonnell Ranges to the Oakover River, and from Alice Springs to Perth.

Exploration of the hinterland was continued by W. P. Goddard (1890), J. H. Rowe (1895), A. W. Canning (1906) and others into the early twentieth century.

Exploring Tasmania

In 1793, Lieutenant John Hayes, commander of the *Duke of Clarence*, sailed up the Derwent River to become the first explorer to journey more than a few kilometres inland from the coast of Van Diemen's Land (by which name Tasmania was known until 1856). Then, as always, the island's rugged topography hindered any extensive exploration, and it was not until 1807 that Lieutenant Thomas Laycock crossed the island from Port Dalrymple to Hobart.

Much early exploration was carried out either with the encouragement of Lieutenant-Governor William Sorell (including expeditions aimed primarily at discovering the nature of the west coast and determining its suitability for a future penal settlement), or under the auspices of the Van Diemen's Land Company (which fostered efforts to find land suitable for agricultural settlement).

Some of the most noteworthy of Tasmania's early explorers were official surveyors, including John Oxley, G. W. Evans and Thomas Scott who, between 1820 and 1837, examined parts of the east, north-west and west coasts and, no doubt, influenced decisions to establish the infamous penal settlements at Macquarie Harbour (in 1822) and Port Arthur (in 1830).

Between the late 1820s and early 1840s a considerable amount of incidental exploration resulted both from expeditions to round up the remaining Tasmanian Aboriginals following the declaration of martial law against them in 1828; and from the personal encouragement by Lieutenant-Governor Sir John Franklin of scientific expeditions to Tasmania in the late 1830s and early 1840s.

In the 1840s and 1850s, licensed surveyor N. L. Kentish was responsible for opening up the rich pastoral areas between the north-west coast and the first high mountains, while Assistant-Surveyor James Scott explored much of the north-east.

The 1860s and 1870s were marked by a number of exploratory journeys in search of minerals, including those of Charles Gould (1862), who found traces of silver, lead and gold in the Franklin and Gordon Valleys; James Smith (1871), who discovered tin at Mt. Bischoff, destined to become the richest mine of its kind in the world; and C. P. Sprent (1876–77), who found gold, copper, osmiridium and platinum while prospecting between the Arthur and Pieman Rivers.

The establishment of the Commonwealth of Australia

Federation

On 1 January 1901, the colonies, with the exception of New Zealand (*see* Year Book No. 63, page 5), were federated under the name of the 'Commonwealth of Australia', the designation of 'Colonies'—except in the case of the Northern Territory, to which the designation 'Territory' applied—being at the same time changed to that of 'States'.

Transfer of the Northern Territory to the Commonwealth

On 7 December 1907, the Commonwealth and the State of South Australia entered into an agreement for the transfer of the Northern Territory to the Commonwealth, subject to approval by the Parliaments of the Commonwealth and the State. This approval was given by the South Australian Parliament under the Northern Territory Surrender Act, 1907 and by the Commonwealth Parliament under the *Northern Territory Acceptance Act* 1910. The Territory was formally transferred to the Commonwealth on 1 January 1911, and became the Northern Territory of Australia.

By Imperial Order in Council dated 23 July 1931, Ashmore Islands, known as Middle, East and West Islands, and Cartier Island, situated in the Indian Ocean off the north-west coast of Australia, were placed under the authority of the Commonwealth. The islands were accepted by the Commonwealth on 10 May 1934, in the *Ashmore and Cartier Islands Acceptance Act* 1933, under the name of the Territory of Ashmore and Cartier Islands. The Act authorised the Governor of Western Australia to make ordinances having the force of law in and in relation to the Territory. An amendment to the Act in July 1938 annexed the islands to the Northern Territory, whose laws, ordinances, and regulations, wherever applicable, thereupon applied. On the attainment of self-government by the Northern Territory on 1 July 1978, the Territory of Ashmore and Cartier Islands was retained as Commonwealth Territory.

The area of Ashmore Reef is approximately 150 square kilometres (to the limit of the reef), and it is situated 350 kilometres off the western coast of Australia and 850 kilometres west of Darwin. Cartier Island is approximately 9 square kilometres in area (to the limit of the reef), and is situated 290 kilometres off the western coast of Australia and 790 kilometres west of Darwin.

Transfer of the Australian Capital Territory to the Commonwealth

On 18 October 1909, the Commonwealth and the State of New South Wales entered into an agreement for the surrender to and acceptance by the Commonwealth of an area of 2,359 square kilometres as the Seat of Government of the Commonwealth. In December 1909, Acts were passed by the Commonwealth and New South Wales Parliaments approving the agreement, and on 5 December 1910 a proclamation was issued vesting the territory in the Commonwealth on and from 1 January 1911. By the *Jervis Bay Territory Acceptance Act* 1915, an area of 73 square kilometres at Jervis Bay, surrendered by New South Wales according to an agreement made in 1913, was accepted by the Commonwealth and was transferred as from 4 September 1915.

Present composition of Australia

In 1973, the total area of Australia and of the individual States and Territories was determined by the Division of National Mapping as 7,682,300 square kilometres. Some historical dates and the present areas of the several States and Territories and of Australia are shown below. For detailed notes on the creation of the several colonies, see Year Book No. 63, pages 4-5.

AUSTRALIA: COMPONENT STATES AND TERRITORIES

State or Territory	Year of annexation	Year of first permanent settlement	Year of formation into separate Colony or Territory	Year in which responsible government was granted	Present area in km ²
New South Wales	1770	1788	1786	1855	801,600
Victoria	1770	1834	1851	1855	227,600
Queensland	1770	1824	1859	(a) 1859	1,727,200
South Australia	1788	1836	1834	1856	984,000
Western Australia	1829	1829	1829	1890	2,525,000
Tasmania	1788	1803	1825	1855	67,800
Northern Territory . . . . .	..	..	(b) 1863	..	1,346,200
Australian Capital Territory . . . . .	..	..	(c) 1911	..	2,400
Australia . . . . .	..	..	..	(d)	7,682,300

(a) As part of New South Wales in 1855; as a separate colony in 1859.
 (b) Previously part of New South Wales; brought under the jurisdiction of South Australia in 1863; transferred to the Commonwealth in 1911.
 as from 1 January 1901.

(c) Previously part of New South Wales.
 (d) Constituted

The external Territories of Australia

More detailed information on Australia's external Territories can be found in Chapter 27, The Territories of Australia.

Norfolk Island

In 1856, Norfolk Island was created a distinct and separate settlement under the jurisdiction of New South Wales. Later, in 1896, it was made a dependency under the Governor of that colony, and finally, by the passage of the *Norfolk Island Act* 1913, it was accepted as a Territory of the Commonwealth of Australia. The island is situated in latitude 29° 02' S., longitude 167° 57' E., and comprises an area approximately 36 square kilometres.

Australian Antarctic Territory

An Imperial Order in Council of 7 February 1933 placed under Australian authority 'all the islands and territories other than Adelie Land which are situated south of the 60° S. latitude and lying between the 160° E. longitude and the 45° E. longitude'.

The Order came into force with a proclamation issued by the Governor-General on 24 August 1936, after the passing of the *Australian Antarctic Territory Acceptance Act* 1933 by the Commonwealth Parliament. The boundaries of Adelie Land were definitely fixed by a French Decree of 1 April 1938 as latitude 60° S., longitude 136° E., and longitude 142° E.

Heard and McDonald Islands

Heard Island and the McDonald Islands, all about 4,100 kilometres south-west of Fremantle, were transferred from United Kingdom to Australian control as from 26 December 1947. Heard Island is approximately 43 kilometres long and 20 kilometres wide, while the McDonald Islands, about 43 kilometres to the west of Heard Island, are small, rocky and precipitous.

Cocos (Keeling) Islands

The *Cocos (Keeling) Islands Act* 1955 provided for the acceptance of the Cocos Islands as a Territory under the authority of the Commonwealth of Australia and was parallel to an Act of the United Kingdom Parliament transferring authority over the islands to the Commonwealth. Consequent on the passing of these Acts, Her Majesty, by Order in Council, specified 23 November 1955 as the date of transfer. From that date the islands came under Australian administration. Day to day affairs in the Territory are managed by an Administrator under delegation from the Minister for Home Affairs. The 27 coral islands of the Territory have an area of about 14 square kilometres, and are situated in the Indian Ocean in latitude 12°05' S. and longitude 96° 53' E.

Christmas Island

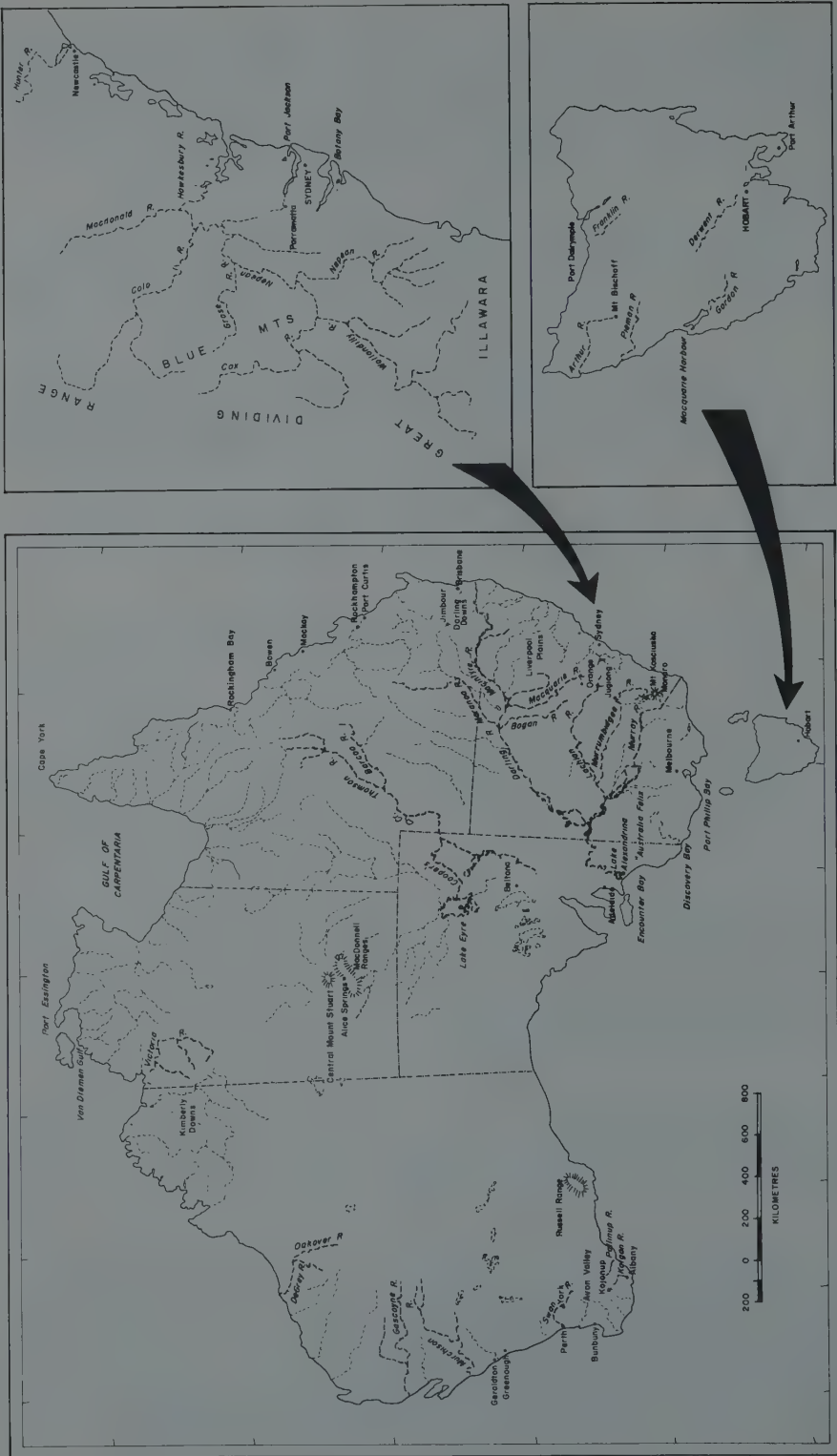
The *Christmas Island Act* 1958 provided for the acceptance of Christmas Island as a Territory under the authority of the Commonwealth of Australia. Complementary legislation having been passed by the Parliament of the United Kingdom, the island was transferred to the Australian administration on 1 October 1958. Day to day affairs in the Territory are managed by an Administrator under delegation from the Minister for Home Affairs. The area of the island is about 135 square kilometres and it is situated in the Indian Ocean in latitude 10° 25' S. and longitude 105° 40' E.

Coral Sea Islands

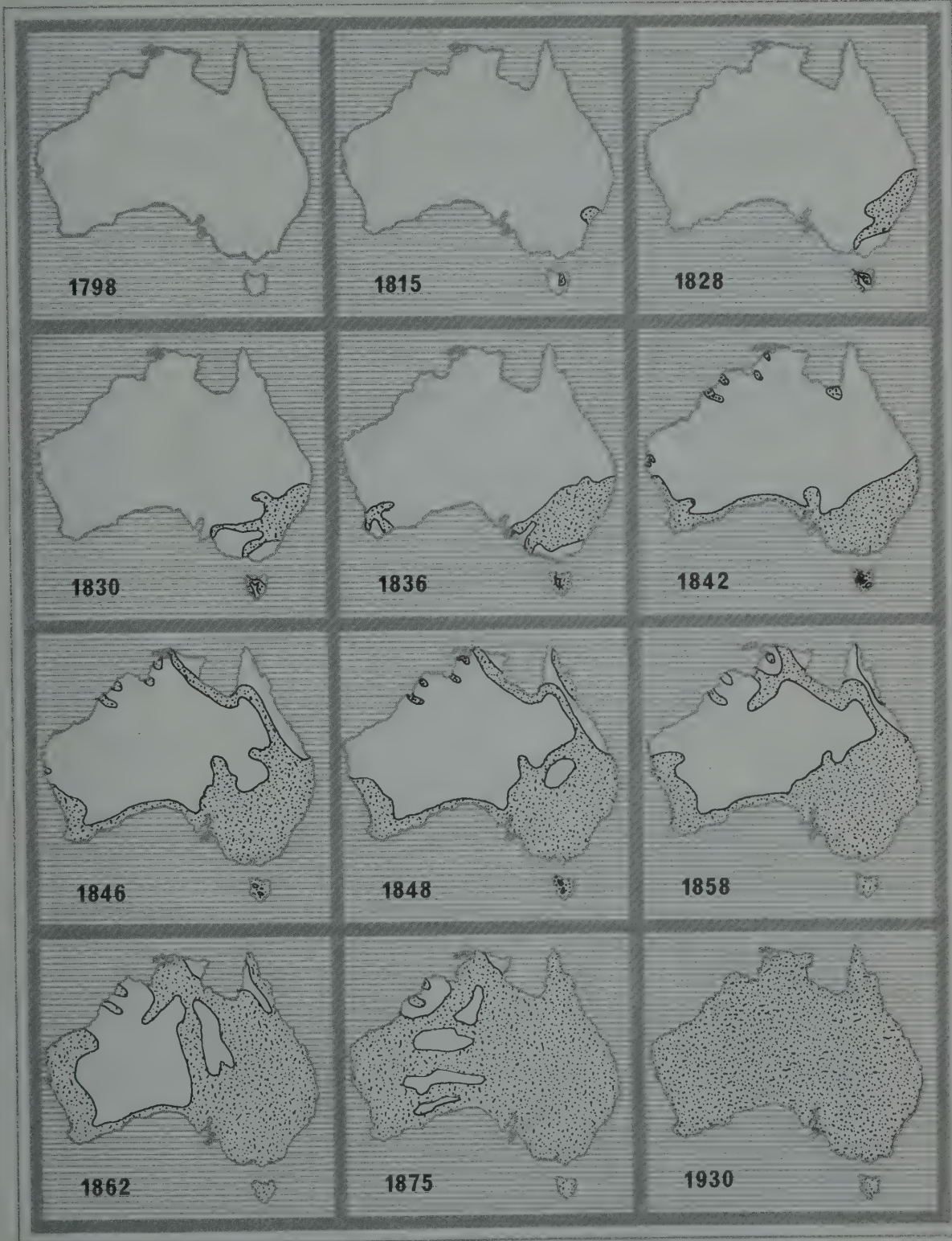
The Coral Sea Islands were declared to be a Territory of the Commonwealth of Australia by the *Coral Sea Islands Act* 1969. The scattered reefs and islands, often little more than sandbanks, spread over a sea area of about 1 million square kilometres with only a few square kilometres of actual land area, between the Great Barrier Reef, latitude 12° S. and longitude 157° 10' E. The Minister for Home Affairs is responsible for matters affecting the Territory.

The Constitution of the Commonwealth of Australia

Information regarding the development of the Constitutions of the various Colonies (now States), together with a brief history of the federal movement in Australia, was embodied in this chapter in earlier issues of the Year Book. A complete copy of the revised Constitution is included in Year Book No. 62, pages 7–24.



These maps show the locations of places and landforms referred to in the accompanying notes on the exploration of Australia.



This map series shows the work of the explorers at various significant times in Australia's history.

CHAPTER 2

CLIMATE AND PHYSICAL GEOGRAPHY OF AUSTRALIA

General description of Australia

This chapter has been prepared by the Bureau of Meteorology, Department of Science and Technology. It is mainly concerned with the climate of Australia, although some geographic comparisons and a summary of landform features influencing climate have been included together with a summary of atmospheric climate controls.

Position and area

Position. Australia, including Tasmania, comprises a land area of 7,682,300 square kilometres. The land lies between latitudes 10° 41' S. (Cape York) and 43° 39' S. (South Cape, Tasmania) and between longitudes 113° 09' E. (Steep Point) and 153° 39' E. (Cape Byron). The most southerly point on the mainland is South Point (Wilson's Promontory) 39° 08' S. The latitudinal distance between Cape York and South Point, Wilson's Promontory (South East Cape, Tasmania) is about 3,180 kilometres (3,680 kilometres) respectively and the longitudinal distance between Steep Point and Cape Byron is about 4,000 kilometres.

Area of Australia compared with areas of other countries. The area of Australia is almost as great as that of the United States of America (excluding Alaska), about 50 per cent greater than Europe (excluding U.S.S.R.) and 32 times greater than the United Kingdom. The following table shows the area of Australia in relation to areas of other continents and selected countries.

AREAS OF CONTINENTS AND SELECTED COUNTRIES, circa 1970
(⁰⁰⁰ square kilometres)

Country	Area	Country	Area
Continental divisions—		Country—	
Europe (a)	4,936	Australia	7,682
Asia (a)	27,532	Canada	9,976
U.S.S.R. (Europe and Asia)	22,402	Germany, Federal Republic of	248
Africa	30,319	Japan	372
North and Central America and West Indies	24,247	New Guinea (b)	462
South America	17,834	New Zealand	269
Oceania	8,504	United Kingdom	244
		United States of America (c)	9,363
Total, World excluding Arctic and Antarctic continents			
	135,771		

(a) Excludes U.S.S.R., shown below.

(b) West Irian is included in other Asia.

(c) Includes Hawaii and Alaska.

Land forms

The average altitude of the surface of the Australian land mass is only about 300 metres. Approximately 87 per cent of the total land mass is less than 500 metres and 99.5 per cent is less than 1,000 metres. The highest point is Mount Kosciusko (2,228 metres) and the lowest point is Lake Eyre (−15 metres).

Australia has three major landform features: the western plateau, the interior lowlands and the eastern uplands. The western half of the continent consists of a great plateau of altitude 300 to 600 metres. The interior lowlands include the channel country of southwest Queensland (drainage to Lake Eyre) and the Murray-Darling system to the south. The eastern uplands consist of a broad belt of varied width extending from north Queensland to Tasmania and consisting largely of tablelands, ranges and ridges with only limited mountain areas above 1,000 metres.

The rivers of Australia may be divided into two major classes, those of the coastal plains with moderate rates of fall and those of the central plains with very slight fall. Of the rivers of the northern part of the east coast, the longest are the Burdekin and the Fitzroy in Queensland. The Hunter is the largest coastal river of New South Wales, and the Murray River, with its great tributary the Darling, drains part of Queensland, the major part of New South Wales, and a large part of Victoria, finally flowing

into the arm of the sea known as Lake Alexandrina, on the eastern side of the South Australian coast. The total length of the Murray is about 2,520 kilometres, about 650 being in South Australia and about 1,870 kilometres from South Australia to the source. The Darling from its junction with the Murray to its junction with the Culgoa is 1,390 kilometres. The Upper Darling (1,140 kilometres) incorporates the Barwon which commences at the junction of the Culgoa to its junction with the Weir River and the Macintyre River from its junction with the Weir to its source near Maybole. The rivers of the north-west coast of Australia (Western Australia) e.g. the Murchison, Gascoyne, Ashburton, Fortescue, De Grey, Fitzroy, Drysdale, and Ord are of considerable size. So also are those in the Northern Territory, e.g. the Victoria and Daly, and those on the Queensland side of the Gulf of Carpentaria, such as the Gregory, Leichhardt, Cloncurry, Gilbert, and Mitchell. The rivers of Tasmania have short and rapid courses, as might be expected from the configuration of the country.

The 'lakes' of Australia may be divided into three classes; true permanent lakes; lakes which being very shallow, become mere morasses in dry seasons or even dry up, and finally present a cracked surface of salt and dry mud; and lakes which are really inlets of the ocean, opening into a lake-like expanse. The second class, which are a characteristic of the interior lowlands are of considerable extent. The largest are Lake Eyre 9,500 square kilometres, Lake Torrens 5,900 square kilometres and Lake Gairdner 4,300 square kilometres.

For further information on the landforms and the geographical features of Australia earlier issues of the Year Book should be consulted. The list of special articles, etc., at the end of this volume indicates the nature of the information available and its position in the various issues.

Area, coastline, tropical and temperate zones, and standard times. The areas of the States and Territories and the length of the coastline were determined in 1973, by the Division of National Mapping, Department of National Resources, by manually digitising these features from the 1:250,000 map series of Australia. This means that only features of measurable size at this scale were considered. About 60,000 points were digitised at an approximate spacing of 0.5 kilometres. These points were joined by chords as the basis for calculation of areas and coastline lengths by computer.

The approximate high water mark coastline was digitised and included all bays, ports and estuaries which are open to the sea. In these cases, the shoreline was assumed to be where the seaward boundary of the title of ownership would be. In mangroves, the shoreline was assumed to be on the landward side. Rivers were considered in a similar manner but the decisions were rather more subjective, the line being across the river where it appeared to take its true form.

AREA, COASTLINE, TROPICAL AND TEMPERATE ZONES, AND STANDARD TIMES: AUSTRALIA

NOTE. See paragraphs above for methods of estimating area and coastline.

State or Territory	Estimated area		Length of coastline	Percentage of total area in		Standard times	
	Total	Percentage of total area		Tropical zone	Temperate zone	Meridian selected	Ahead of G.M.T. (a)
	km ²		km				hours
New South Wales	801,600	10.43	1,900	..	100	150°E	(b)10.0
Victoria	227,600	2.96	1,800	..	100	150°E	(b)10.0
Queensland	1,727,200	22.48	7,400	54	46	150°E	10.0
South Australia	984,000	12.81	3,700	..	100	142°30'E	(b)9.5
Western Australia	2,525,500	32.87	12,500	37	63	120°E	8.0
Tasmania	67,800	0.88	3,200	..	100	150°E	(b)10.0
Northern Territory	1,346,200	17.52	6,200	81	19	142°30'E	9.5
Australian Capital Territory	2,400	0.03	35	..	100	150°E	(b)10.0
Australia	7,682,300	100.00	36,735	39	61	..	..

(a) Greenwich Mean Time.

(b) Because of 'daylight saving' an hour should be added from late October to early March.

Climate of Australia

General

The following information has been prepared by the Bureau of Meteorology, Department of Science and Technology. Previously, this chapter of the Year Book also included information about the physical geography of Australia. The information appeared most recently in Year Book No. 61 of 1975-76.

The climate of Australia is predominantly continental but the insular nature of the land mass is significant in producing modification of the continental pattern.

The island continent of Australia is relatively dry with 50 per cent of the area having a median rainfall of less than 300 millimetres per year and 80 per cent less than 600 millimetres. Extreme minimum temperatures are not as low as those recorded in other continents because of the absence of extensive mountain masses and because of the expanse of ocean to the south. However, extreme maxima are comparatively high, reaching 50°C over the inland, mainly due to the great east-west extent of the continent in the vicinity of the Tropic of Capricorn.

Climatic discomfort, particularly heat discomfort, is significant over most of Australia. During summer, prolonged high temperatures and humidity around the northern coasts and high temperatures over the inland cause physical discomfort. In winter, low temperatures and strong cold winds over the interior and southern areas can be severe for relatively short periods.

Climatic controls

The generally low relief of Australia causes little obstruction to the atmospheric systems which control the climate. A notable exception is the eastern uplands which modify the atmospheric flow.

In the winter half of the year (May–October) anticyclones, or high pressure systems, pass from west to east across the continent and often remain almost stationary over the interior for several days. These anticyclones may extend to 4,000 kilometres along their west-east axes. Northern Australia is then influenced by mild, dry south-east trade winds, and southern Australia experiences cool, moist westerly winds. The westerlies and the frontal systems associated with extensive depressions travelling over the Southern Ocean have a controlling influence on the climate of southern Australia during the winter season, causing rainy periods. Cold outbreaks, particularly in south-east Australia occur when cold air of Southern Ocean origin is directed northwards by intense depressions having diameters up to 2,000 kilometres. Cold fronts associated with the southern depressions, or with secondary depressions over the Tasman Sea, may produce large day-to-day changes in temperature in southern areas, particularly in south-east coastal regions.

In the summer half of the year (November–April) the anticyclones travel from west to east on a more southerly track across the southern fringes of Australia directing easterly winds generally over the continent. Fine, warmer weather predominates in southern Australia with the passage of each anticyclone. Heat waves occur when there is an interruption to the eastward progression of the anticyclone (blocking) and winds back northerly and later north-westerly. Northern Australia comes under the influence of summer disturbances associated with the southward intrusion of warm moist monsoonal air from north of the inter-tropical convergence zone resulting in a hot rainy season.

Tropical cyclones develop over the seas to the north-west and the north-east of Australia in summer between November and April. Their frequency of occurrence and the tracks they follow vary greatly from season to season. On the average, about three Coral Sea cyclones per season directly affect the Queensland coast, and about two Indian Ocean cyclones affect the north-western coast. Tropical cyclones approaching the coast usually produce very heavy rain in coastal areas. Some cyclones move inland, losing intensity but still producing widespread heavy rainfall. Individual cyclonic systems may control the weather over northern Australia for periods extending to three weeks.

Rainfall

Annual. The annual 10, 50 and 90 percentile* rainfall maps are shown on Plates 4–6 respectively. The area of lowest rainfall is east of Lake Eyre in South Australia, where the median (50 percentile) rainfall is only about 100 millimetres. Murnpeowie, with 70 years of record, has a median annual rainfall of 101 millimetres. Another very low rainfall area is in Western Australia in the Giles-Warburton Range region, which has a median annual rainfall of about 150 millimetres. A vast region extending from the west coast near Shark Bay across the interior of Western Australia and South Australia to south-west Queensland and north-west New South Wales has a median annual rainfall of less than 200 millimetres. This region is not normally exposed to moist air masses for extended periods and rainfall is irregular, averaging only one or two days per month. However, in favourable synoptic situations, which occur infrequently over extensive parts of the region, up to 400 millimetres of rain may fall within a few days and result in widespread flooding.

* The amounts that are not exceeded by 10, 50 and 90 per cent of all recordings are the 10, 50 and 90 percentiles or the first, fifth and ninth deciles respectively. The 50 percentile is usually called the median.



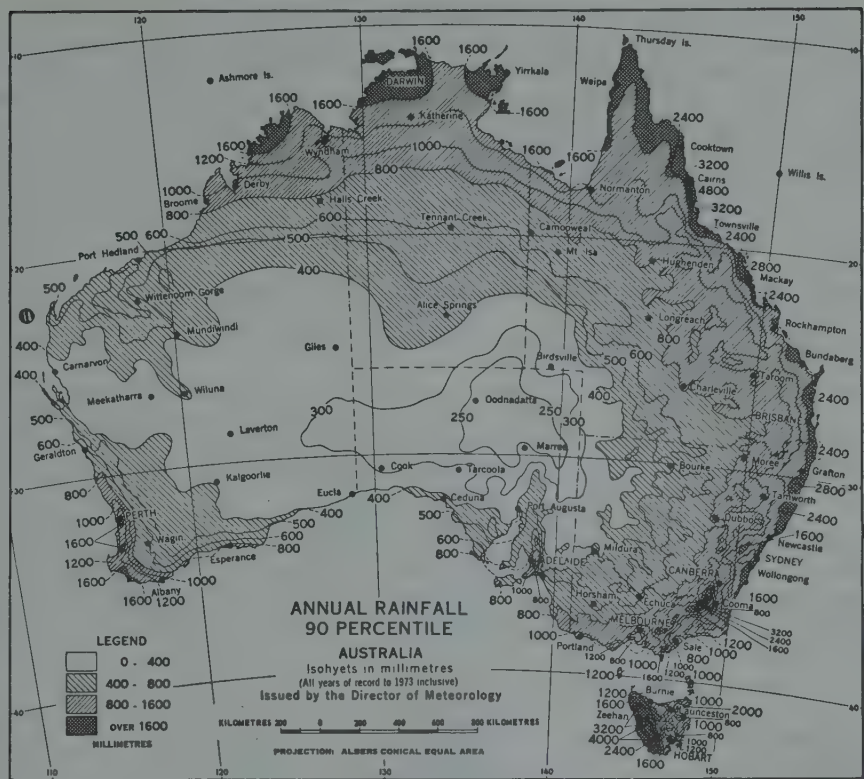


PLATE 6

The region with the highest median annual rainfall is the east coast of Queensland between Cairns and Cardwell, where Tully's median is highest (4,400 millimetres). The mountainous region of western Tasmania also has a high annual rainfall, with 3,600 millimetres at Lake Margaret. In the mountainous areas of north-east Victoria and some parts of the east coastal slopes there are small pockets with median annual rainfall greater than 2,500 millimetres, but the map scale is too small for these to be shown.

The Snowy Mountains area in New South Wales also has a particularly high rainfall. The highest median annual rainfall isohyet drawn for this region is 3,200 millimetres, and it is likely that small areas have a median annual rainfall approaching 4,000 millimetres on the western slopes above 2,000 metres elevation.

The following table shows the area distribution of the median annual rainfall derived from the map in Plate 5, page 14.

AREA DISTRIBUTION OF MEDIAN ANNUAL RAINFALL: AUSTRALIA
(Per cent)

Median annual rainfall	W.A.	N.T.	S.A.	Qld	N.S.W.(a)	Vic.	Tas.	Aust.
Under 200 mm . . .	43.5	15.5	74.2	10.2	8.0	..	..	29.6
200 to 300 mm . .	29.6	35.6	13.5	13.0	20.3	6.3	..	22.9
300 " 400 " . . .	10.5	9.0	6.8	12.3	19.0	19.2	..	11.2
400 " 500 " . . .	4.3	6.6	3.2	13.5	12.4	11.8	..	7.6
500 " 600 " . . .	3.1	5.8	1.8	11.6	11.3	14.1	12.2	6.6
600 " 800 " . . .	4.6	11.6	0.5	20.5	15.1	24.5	18.2	10.7
800 " 1,200 " . .	3.7	9.6	..	12.6	11.3	17.7	25.0	7.7
Above 1,200 " . .	0.7	6.3	..	6.3	2.6	6.4	44.6	3.7
Total . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Includes Australian Capital Territory.

Seasonal. As outlined under the heading of Climatic controls, the rainfall pattern is strongly seasonal in character with a winter rainfall regime in the south and a summer regime in the north.

The dominance of rainfall over other climatic elements in determining the growth of specific plants in Australia has led to the development of a climatic classification based on two main parameters. These parameters are median annual rainfall and seasonal rainfall incidence. Plate 7, below, is a simplified version of the seasonal rainfall zones arising from this classification (see Bureau of Meteorology publication *Climatic Atlas of Australia, Map Set 5, Rainfall*, 1977).

Evaporation and the concept of rainfall effectiveness are taken into account to some extent in this classification by assigning higher median annual rainfall limits to the summer zones than the corresponding uniform and winter zones. The main features of the seasonal rainfall are:

- (a) marked wet summer and dry winter of northern Australia;
- (b) wet summer and relatively dry winter of south-eastern Queensland and north-eastern New South Wales;
- (c) uniform rainfall in south-eastern Australia—much of New South Wales, parts of eastern Victoria and in southern Tasmania;
- (d) marked wet winter and dry summer of south-west Western Australia and (to a lesser extent) of much of the remainder of southern Australia directly influenced by westerly circulation;
- (e) arid area comprising about half of the continent extending from the north-west coast of Western Australia across the interior and reaching the south coast at the head of the Great Australian Bight.

Variability. The adequate presentation of rainfall variability over an extensive geographical area is difficult. Probably the best measures are found in tables compiled for a number of individual stations in some of the Climatic Survey districts. These tables show the percentage chances of receiving specified amounts of rainfall in monthly, seasonal or annual time spans. Statistical indexes of rainfall variation based on several techniques have been used to compile maps showing main features of the variability of annual rainfall over Australia.

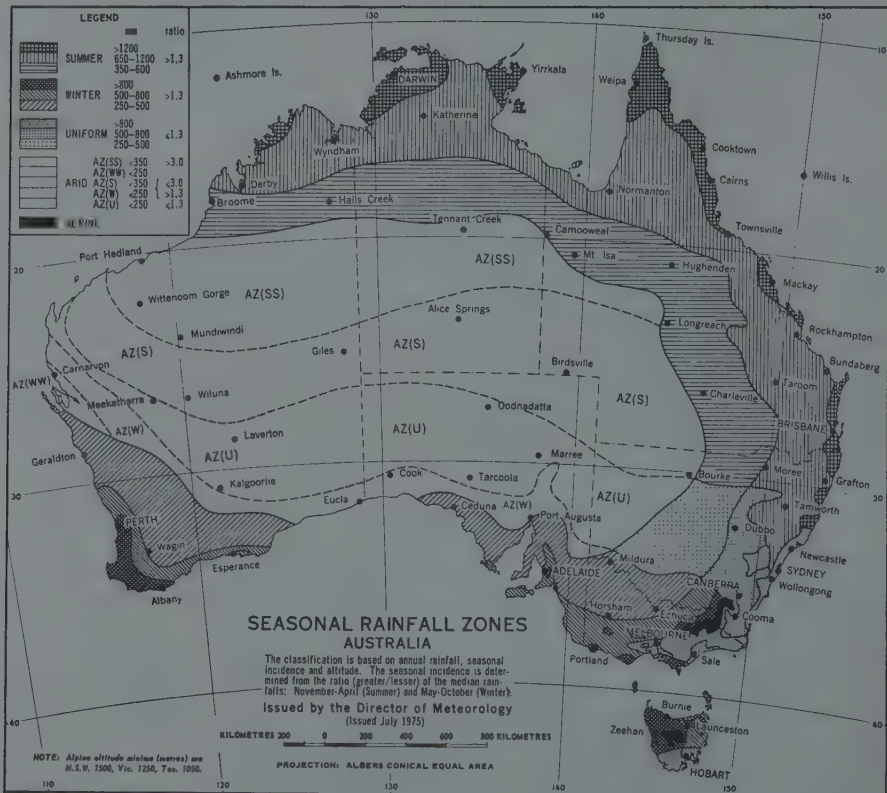


PLATE 7

One index for assessing the variability of annual rainfall is given by the ratio of the 90-10 percentile range to the 50 percentile (median value) i.e. Variability Index = $\left\{ \frac{90 - 10}{50} \right\}$ percentiles.

Variability based on this relationship (Gaffney 1975) is shown in Plate 8, page 18. The region of high to extreme variability shown in Plate 8, lies mostly in the arid zone with summer rainfall incidence, AZ(S), defined on Plate 7, page 16. In the winter rainfall zones the variability is generally low to moderate as exemplified by the south-west of Western Australia. In the tropics, random cyclone visitations cause extremely great variations in rainfall from year to year: at Onslow (Western Australia), annual totals varied from 15 millimetres in 1912 to 1,085 millimetres in 1961 and, in the four consecutive years 1921 to 1924, the annual totals were 566, 69, 682 and 55 millimetres respectively. At Whim Creek (Western Australia), where 747 millimetres have been recorded in a single day, only 4 millimetres were received in the whole of 1924. Great variability can also occur in the heavy rainfall areas: at Tully (Queensland), the annual rainfalls have varied from 7,899 millimetres in 1950 to 2,489 millimetres in 1961.

Rainday frequency. The average number of days per year with rainfall of 0.2 millimetres or more is shown in Plate 9, page 18.

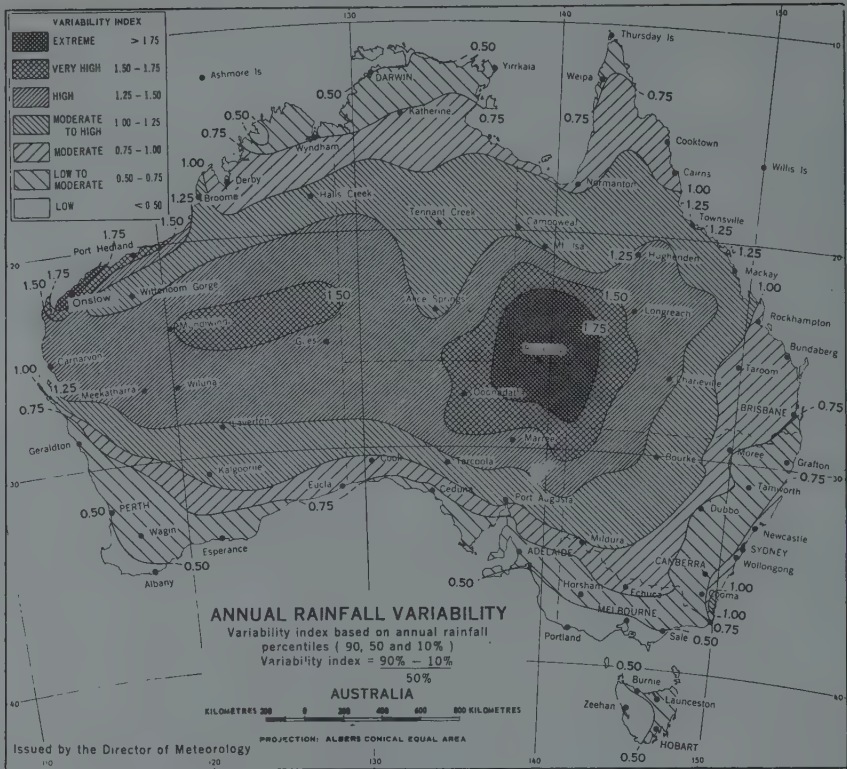
The frequency of rain-days exceed 150 per year in Tasmania (with a maximum of over 200 in western Tasmania), southern Victoria, parts of the north Queensland coast and in the extreme south-west of Western Australia. Over most of the continent the frequency is less than 50 rain-days per year. The area of low rainfall with high variability, extending from the north-west coast of Western Australia through the interior of the continent, has less than 25 rain-days per year. In the high rainfall areas of northern Australia the number of rain-days is about 80 per year, but heavier falls occur in this region than in southern regions.

Intensity. The highest rainfall intensities for some localities are shown in the first table on page 19. These figures represent intensities over only small areas around the recording points because turbulence and exposure characteristics of the measuring gauge may vary over a distance of a few metres. The highest 24-hour (9 a.m. to 9 a.m.) falls are listed by States in the second table on page 19. Most of the very high 24-hour falls (above 700 millimetres) have occurred in the coastal strip of Queensland, where a tropical cyclone moving close to mountainous terrain provides ideal conditions for spectacular falls. The highest 24-hour fall (1,140 millimetres) occurred at Bellenden Ker (Top Station) on 4 January 1979. Bellenden Ker (Top Station) has also recorded the highest monthly rainfall in Australia (5,387 millimetres in January 1979).

The highest annual rainfalls are listed by States in the following table.

HIGHEST ANNUAL RAINFALLS
(All years to 1979 inclusive)

State	Station	Year	Amount
			mm
Queensland	Bellenden Ker (Top Station)	1979	11,251
New South Wales	Tallowood Point	1950	4,540
Tasmania	Lake Margaret	1948	4,504
Victoria	Mt Buffalo Chalet	1917	3,342
Northern Territory	Elizabeth Downs	1973	2,966
Western Australia	Karnet	1964	2,601
South Australia	Aldgate State School	1917	1,851



HIGHEST RAINFALL INTENSITIES IN SPECIFIED PERIODS

(millimetres)

(Source: Pluviograph records in Bureau of Meteorology archives.)

Station	Period of record	Years of complete records	Period in hours				
			1	3	6	12	24
			mm	mm	mm	mm	mm
Adelaide	1897-1974	74	69	133	141	141	141
Alice Springs	1951-1974	22	54	55	74	103	138
Brisbane	1911-1974	61	88	144	182	265	311
Broome	1948-1973	26	72	119	130	172	228
Canberra	1932-1970	35	51	68	71	89	139
Carnarvon	1956-1971	16	32	63	83	95	108
Charleville	1953-1974	22	42	66	75	111	142
Cloncurry	1953-1974	19	59	118	164	173	204
Darwin	1953-1973	18	88	101	109	152	191
Esperance	1963-1973	9	23	45	62	68	79
Hobart	1911-1976	63	28	56	87	117	168
Meekatharra	1953-1973	19	26	67	81	99	112
Melbourne	1878-1976	86	79	83	86	97	130
Mildura	1953-1976	22	49	60	65	65	91
Perth	1946-1974	27	32	38	47	64	93
Sydney	1913-1976	60	97	132	166	190	282
Townsville	1953-1974	20	87	145	165	168	275

HIGHEST DAILY RAINFALLS

(All years to June 1979)

State	Station	Date	Amount
			mm
Queensland	Bellenden Ker (Top Station)	4.1.1979	1140
	Crohamhurst	3.2.1893	907
	Finch Hatton	18.2.1958	878
	Mount Dangar	20.1.1970	869
	Whim Creek	3.4.1898	747
Western Australia	Kilto	4.12.1970	635
	Fortescue	3.5.1890	593
	Dorrigio	21.2.1954	809
New South Wales	Cordeaux River	14.2.1898	574
	Roper Valley	15.4.1963	545
Northern Territory	Groote Eylandt	28.3.1953	513
	Cullenswood	22.3.1974	352
Tasmania	Mathinna	5.4.1929	337
	Balook	18.2.1951	275
Victoria	Hazel Park	1.12.1934	267
	Stansbury	18.2.1946	222
	Stirling	17.4.1889	208

Thunderstorms and hail. A thunder-day at a given location is a calendar day on which thunder is heard at least once. Plate 10, page 20 shows isopleths (isobronts) of the average annual number of thunder-days which varies from 80 per year near Darwin to less than 10 per year over parts of the southern regions. Convectional processes during the summer wet season cause high thunderstorm incidence in northern Australia. The generally high incidence (40-60 annually) over the eastern upland areas is produced mainly by orographic uplift of moist air streams.

Hail, mostly of small size (less than 10 millimetres diameter), occurs with winter/spring cold frontal activity in southern Australia. Summer thunderstorms, particularly over the uplands of eastern Australia, sometimes produce large hail (greater than 10 millimetres diameter). Hail capable of piercing light gauge galvanised iron occurs at irregular intervals and sometimes causes widespread damage.

Snow. Generally, snow covers much of the Australian Alps above 1,500 metres for varying periods from late autumn to early spring. Similarly, in Tasmania the mountains are covered fairly frequently above 1,000 metres in these seasons. The area, depth and duration are highly variable and in the altitude range 500-1,000 metres no snow falls in some years. Snowfalls at levels below 500 metres are occasionally experienced in southern Australia, particularly in the foothill areas of Tasmania and Victoria, but falls are usually light and short-lived. In some seasons parts of the eastern uplands above

1,000 metres from Victoria to south-eastern Queensland have been covered with snow for several weeks. In ravines around Mt Kosciusko (2,228 metres) small areas of snow may persist through summer but there are no permanent snowfields.

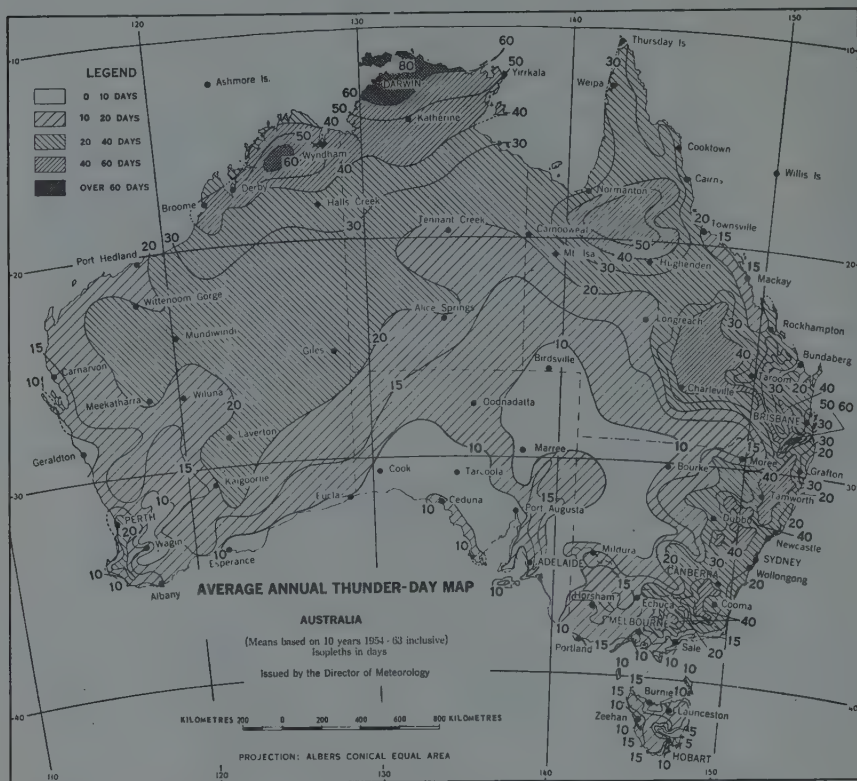


PLATE 10

Temperature

Average temperatures. Average annual air temperatures as shown in Plate 11, page 21 range from 28° C along the Kimberley coast in the extreme north of Western Australia to 4° C in the alpine areas of south-eastern Australia. Although annual temperature may be used for broad comparisons, monthly temperatures are required for detailed analyses.

July is the month with the lowest average temperature in all parts of the continent. The months with the highest average temperature are January or February in the south and December in the north (except in the extreme north and north-west where it is November). The slightly lower temperatures of mid-summer in the north are due to the increase in cloud during the wet season.

Average monthly maxima. Maps of average maximum and minimum temperatures for the months of January and July are shown in Plates 12-15 inclusive, pages 21-23.

In January, average maximum temperatures exceed 35° C over a vast area of the interior and exceed 40° C over appreciable areas of the north-west. The consistently hottest part of Australia is around Marble Bar, Western Australia (150 kilometres south-east of Port Hedland) where the average is 41° C and daily maxima during summer may exceed 40° C consecutively for several weeks at a time.

The marked gradients of isotherms of maximum temperature in summer in coastal areas, particularly along the south and west coasts, are due to the penetration inland of fresh sea breezes initiated by the sharp temperature discontinuities between the land and sea surfaces. There are also gradients of a complex nature in south-east coastal areas caused primarily by the uplands.

In July a more regular latitudinal distribution of average maxima is evident. Maxima range from 30° C near the north coast to 5° C in the alpine areas of the south-east.



PLATES 11 and 12





PLATE 15

Extreme maxima. Temperatures have exceeded 45°C at nearly all inland stations more than 150 kilometres from the coast and at many places on the north-west and south coasts. Temperatures have exceeded 50°C at some inland stations and at a few near the coast. It is noteworthy that Eucla on the south coast has recorded 50.7°C , the highest temperature in Western Australia. This is due to the long trajectory over land of hot north-west winds from the Marble Bar area. Although the highest temperature recorded in Australia was 53.1°C at Cloncurry (Queensland), more stations have exceeded 50°C in western New South Wales than in other areas due to the long land trajectory of hot winds from the north-west interior of the continent.

Extreme maximum temperatures recorded at selected stations, including the highest recorded in each State, are shown in the table below.

EXTREME MAXIMUM TEMPERATURES

(All years to June 1979)

Station	$^{\circ}\text{C}$	Station	$^{\circ}\text{C}$
Western Australia—		New South Wales—	
Eucla	50.7	Bourke	52.8
Mundrabilla	49.8	White Cliffs	51.1
Forrest	49.8	Walgett	50.1
Madara	49.4	Wilcannia	50.0
Northern Territory—		Menindee	49.7
Charlotte Waters (near Finke)	48.2	Australian Capital Territory—	
Woolagarang	47.5	Canberra	42.2
Jervois	47.5	Victoria—	
South Australia—		Mildura	50.8
Oodnadatta	50.7	Tasmania—	
Kyancutta	49.3	Bushby Park	40.8
Queensland—		Hobart	40.8
Cloncurry	53.1		
Winton	50.7		
Birdsville	50.0		

Extreme minima. The lowest temperatures in Australia have been recorded in the Snowy Mountains, where Charlotte Pass (elevation 1,760 metres) has recorded -22.2°C . Temperatures have fallen below -5°C at most inland places south of the tropics and at some places within a few kilometres of southern coasts. At Eyre, on the south coast of Western Australia, a minimum of -3.9°C has been recorded, and at Swansea, on the east coast of Tasmania, the temperature has fallen as low as -4.4°C .

In the tropics, extreme minima below 0°C have been recorded at many places away from the coasts as far north as Herberton, Queensland (-3.3°C). Even very close to the tropical coastline temperatures have fallen to 0°C , a low recording being -0.8°C for Mackay.

The next table shows extreme minimum temperatures recorded at specified stations, including the lowest recorded in each State.

EXTREME MINIMUM TEMPERATURES

(All years to June 1979)

Station	$^{\circ}\text{C}$	Station	$^{\circ}\text{C}$
Western Australia—		New South Wales—	
Dwellingup	-7.0	Charlotte Pass	-22.2
Booylgoo	-6.7	Kiandra	-20.6
Wandering	-5.7	Kosciusko Hotel	-14.4
Northern Territory—		Cooma	-11.2
Alice Springs	-7.5	Australian Capital Territory—	
Tempe Downs	-6.9	Canberra	-10.0
South Australia—		Victoria—	
Yongala	-8.2	Mount Hotham	-12.8
Kyancutta	-7.0	Omoo	-11.7
Queensland—		Bairnsdale	-7.2
Stanthorpe	-11.0	Tasmania—	
Mitchell	-9.4	Oatlands	-12.8
Nanango	-9.3	Bothwell	-12.5

Heat waves. Periods with a number of successive days having a temperature higher than 40°C are relatively common in summer over parts of Australia. With the exception of the north-west coast of Western Australia, however, most coastal areas rarely experience more than three successive days of such conditions. The frequency increases inland, and periods of up to ten successive days have been recorded at many inland stations. This figure increases in western Queensland and north-western Western Australia to more than twenty days in places. The central part of the Northern Territory and the Marble Bar-Nullagine area of Western Australia have recorded the most prolonged heat waves.

Heat waves are experienced in the coastal areas from time to time. During 11–14 January 1939, for example, a severe heat wave affected south-eastern Australia: Adelaide had a record of 47.6°C on the 12th, Melbourne a record of 45.6°C on the 13th and Sydney a record of 45.3°C on the 14th.

Frost.

For details see Year Book No. 63.

Humidity

Australia is a dry continent in terms of the water vapour content or humidity of the air and this element may be compared with evaporation to which it is related (see page 28). Humidity is measured at Bureau of Meteorology observational stations by a pair of dry and wet bulb thermometers mounted in a standard instrument screen. These measurements enable moisture content to be expressed by a number of parameters, two of which are vapour pressure and relative humidity.

Vapour pressure is an actual quantitative measure whereas relative humidity is a ratio (expressed as a percentage). Both of these are included here showing their respective applications but more detailed treatment is given to relative humidity because of its wider usage.

Vapour pressure. Vapour pressure is defined as the pressure exerted by the water vapour in the air; and it is a measure of the actual amount of water vapour present. The amount of water vapour does not normally vary greatly during the day, although afternoon sea breezes at coastal stations may bring in moisture to increase the vapour pressure temporarily by amounts up to 5 millibars. The 9 a.m. vapour pressure may be taken to approximate the mean value for the day.

The table on page 28 contains average 9 a.m. vapour pressures for selected stations. The annual averages range from 9.5 millibars at Hobart to 27.9 millibars at Thursday Island. At the high level station Kiandra (1,400 metres) the annual average is 7.9 millibars. Excluding Kiandra, monthly averages range from 6.7 millibars at inland stations in winter months to 30.9 millibars at Broome in February.

Vapour pressure together with corresponding air temperature have been used to measure climatic discomfort affecting human beings. Comfortable conditions are generally accepted as being within the vapour pressure range 7–17 millibars with respective air temperatures in the range 15–30°C. Above these limits heat discomfort increases and below them cold discomfort increases. The wet bulb temperature may also be used as a simple measure of heat discomfort when this temperature rises above 20°C.

Relative humidity. Relative humidity at a given temperature is the ratio (expressed as a percentage) of actual vapour pressure to the saturated vapour pressure at that temperature. As a single measure of human discomfort relative humidity is of limited value because it must be related to the temperature at the time.

Since the temperature at 9 a.m. approximates the mean temperature for the day (24 hours), the relative humidity at 9 a.m. may be taken as an estimate of the mean relative humidity for the day. Relative humidity at 3 p.m. occurs around the warmest part of the day on the average and is representative of the lowest daily values. Relative humidity on the average is at a maximum in the early morning when air temperature is minimal.

Relative humidity isopleths for January and July at 9 a.m. and 3 p.m. are shown in Plates 16–19 on pages 26–27, extracted from the *Climatic Atlas of Australia, Map Set 6 Relative Humidity* (1978).

The main features of the relative humidity pattern are:

- (a) over the interior of the continent there is a marked dryness during most of the year, notably towards the northern coasts in the dry season (May–October);
- (b) the coastal fringes are comparatively moist, although this is less evident along the northwest coast of Western Australia where continental effects are marked;
- (c) in northern Australia the highest values occur during the summer wet season (December–February) and the lowest during the winter dry season (June–August);
- (d) in most of southern Australia the highest values are experienced in the winter rainy season (June–August) and the lowest in summer (December–February).

The table on page 28 contains average relative humidity at 9 a.m. for the year and for each month. Average annual figures on the table range from 34 per cent at Mundiwindi and Marble Bar to 79 per cent at Thursday Island illustrating the range of average relative humidity over Australia. Adelaide has the lowest value for a capital city with an annual average of 60 per cent, compared with Melbourne 69 per cent and Darwin 73 per cent.

Monthly averages shown in the table range from 23 per cent at Mundiwindi in November to 89 per cent at Katanning in June and July. At Alice Springs monthly averages vary from 30 per cent in November to 66 per cent in the winter month of June when low temperatures have the effect of raising relative humidity over the interior. Broome varies from 46 per cent in August to 73 per cent in February, which is a marked seasonal change for a coastal station.

The pattern of variation of relative humidity differs from that of vapour pressure particularly in southern Australia. This is due to the difference in variation of the two parameters with temperature. If the amount of moisture in the air remains constant, vapour pressure decreases slightly with falling temperatures, whereas relative humidity increases. Perth for example has an average 9 a.m. vapour pressure of 14.7 millibars in January and 11.0 in August; and the respective average relative humidity figures (51 and 74 per cent respectively) show a reverse change.



PLATES 16 and 17



AVERAGE VAPOUR PRESSURE AT 9 A.M.

(millibars)

NOTE. The averages in this and the next table may differ from previously published averages derived from average monthly and annual dry and wet bulb temperatures respectively. This is mainly due to the nature of psychometric formulae and also to differences in the period of record.

Station	Period of record	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Adelaide	1955-78	13.1	13.6	12.9	11.7	10.9	9.9	9.6	9.6	9.8	10.4	10.9	11.9	11.2
Alice Springs . . .	1940-78	12.8	13.7	11.7	9.9	8.8	7.9	7.0	6.7	7.0	8.5	9.5	11.0	9.6
Armidale	1957-78	15.6	15.8	14.4	11.8	9.2	7.8	6.7	7.5	8.6	10.5	11.9	13.7	11.1
Brisbane	1951-78	21.7	22.2	21.3	18.1	14.1	11.9	10.7	11.1	13.1	15.5	17.7	19.8	16.4
Broome	1939-78	30.2	30.9	29.6	22.6	16.2	13.5	12.5	13.1	16.6	21.2	25.3	28.7	21.7
Canberra	1939-78	13.5	14.2	13.1	10.6	8.6	7.3	6.7	7.2	8.4	10.0	10.9	12.1	10.2
Carnarvon	1945-78	20.9	21.9	20.0	17.0	14.2	13.6	12.5	12.2	12.4	13.4	15.7	18.3	16.0
Ceduna	1939-78	14.0	14.5	13.8	12.4	11.2	9.9	9.4	9.8	10.4	10.8	11.6	12.9	11.7
Charleville	1942-78	17.3	18.4	16.4	12.9	10.7	9.5	8.3	8.3	9.1	11.1	12.0	14.7	12.4
Cloncurry	1939-75	21.2	22.8	18.7	13.8	11.0	9.4	8.0	7.7	8.6	11.2	13.2	17.3	13.6
Darwin	1941-78	30.4	30.5	30.2	26.8	21.5	17.8	17.4	20.1	24.4	27.2	28.9	29.9	25.4
Esperance	1957-69	16.1	16.9	15.8	14.7	12.8	12.1	11.1	11.0	11.8	12.6	13.5	14.8	13.6
Halls Creek	1944-78	21.7	22.2	18.6	13.0	10.8	8.8	7.5	7.4	8.4	11.5	14.4	18.7	13.5
Hobart	1944-78	11.3	11.6	11.2	10.0	9.0	8.1	7.7	7.7	8.2	9.0	9.6	10.7	9.5
Kalgoorlie	1939-78	13.6	14.3	13.7	12.3	10.9	9.9	9.1	9.1	9.2	10.0	11.1	12.3	11.3
Katanning	1957-78	13.6	14.4	13.6	12.9	11.5	10.6	9.7	10.0	10.4	10.9	11.2	12.2	11.7
Kiandra	1957-74	11.6	11.1	10.5	7.9	6.2	5.6	5.0	5.3	5.7	7.3	8.3	10.3	7.9
Marble Bar	1957-78	22.1	21.8	19.0	13.3	10.3	10.0	8.5	8.1	8.2	10.0	11.7	17.2	13.3
Melbourne	1955-78	13.7	14.7	13.8	11.9	10.5	9.5	8.8	9.0	9.7	10.6	11.4	12.4	11.3
Mildura	1946-78	13.5	14.3	13.4	11.8	10.6	9.3	8.7	9.1	9.8	10.7	11.2	12.1	11.2
Mundiwindi	1957-78	14.0	14.8	13.0	11.0	9.0	8.8	7.7	7.2	6.8	8.0	8.9	11.1	10.0
Perth	1942-78	14.7	15.2	14.7	13.6	12.4	11.9	11.1	11.0	11.4	11.2	12.4	13.6	12.8
Sydney	1955-78	19.1	20.0	18.8	15.1	11.8	10.5	9.0	9.6	11.0	13.1	14.9	17.2	14.2
Thursday Island . .	1950-78	30.5	30.7	30.6	29.5	28.3	26.1	24.7	24.7	25.1	26.6	28.3	29.9	27.9
Townsville	1939-78	27.2	27.7	26.3	22.4	18.8	15.6	15.2	15.9	17.7	20.7	23.5	25.5	21.4

AVERAGE RELATIVE HUMIDITY AT 9 A.M.

(per cent)

Station	Period of record	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Adelaide	1955-78	49	51	54	59	69	73	75	71	63	56	53	51	60
Alice Springs . . .	1940-78	36	41	42	46	57	66	61	50	36	33	30	31	44
Armidale	1957-78	67	71	72	73	78	80	75	72	64	59	58	59	69
Brisbane	1951-78	67	68	70	69	68	69	66	62	60	59	58	60	64
Broome	1939-78	70	73	69	55	51	50	49	46	48	54	58	64	57
Canberra	1939-78	60	65	68	74	81	84	84	78	72	65	60	56	70
Carnarvon	1945-78	60	60	58	57	60	70	70	63	54	52	55	58	59
Ceduna	1939-78	55	59	62	68	77	82	81	77	66	56	54	54	65
Charleville	1942-78	49	54	54	54	63	71	66	56	45	41	37	41	52
Cloncurry	1939-75	53	61	53	45	47	50	45	37	31	30	32	41	43
Darwin	1941-78	82	84	83	76	67	63	64	68	71	70	73	77	73
Esperance	1957-69	62	67	66	71	76	81	82	76	71	65	62	62	70
Halls Creek	1944-78	51	55	44	33	36	35	31	25	22	25	30	40	35
Hobart	1944-78	58	62	65	69	75	78	78	73	65	62	60	55	67
Kalgoorlie	1939-78	48	54	56	62	70	76	75	68	56	50	46	45	58
Katanning	1957-78	59	65	69	77	85	89	89	87	82	70	60	57	74
Kiandra	1957-74	67	68	73	75	83	86	86	85	72	67	63	65	74
Melbourne	1955-78	61	65	67	71	77	81	80	75	69	64	62	61	69
Marble Bar	1957-78	47	48	41	33	35	41	37	30	24	24	24	34	34
Mildura	1946-78	50	56	61	70	82	88	86	79	68	59	53	49	66
Mundiwindi	1957-78	32	37	35	37	41	50	47	39	28	25	23	25	34
Perth	1942-78	51	53	57	65	72	78	78	74	68	50	54	51	63
Sydney	1955-78	68	71	72	70	70	73	68	66	63	61	62	65	67
Thursday Island . .	1950-78	83	85	85	82	81	80	79	78	75	73	73	77	79
Townsville	1939-78	73	76	74	69	67	66	66	63	60	61	64	66	67

Sunshine, cloud and fog

For details see Year Book No. 62.

Global radiation

For details see Year Book No. 63.

Evaporation

Evaporation is defined as the emission of water vapour by a free surface of water at a temperature below boiling point. Potential evaporation is the quantity of water vapour emitted by a free surface of pure water, per unit surface area and unit time, in the existing conditions. In climatology potential evaporation is normally referred to simply as evaporation.

Evaporation from a free water surface depends on a number of climatic elements, mainly temperature, humidity and wind. Evaporation data are useful in water conservation studies and in estimating potential evapotranspiration for irrigation and plant growth studies. In Australia, where surface water storage is vital over large areas, evaporation is a highly significant element.

The Australian Bureau of Meteorology measured evaporation prior to about 1966 by means of the sunken tank type of evaporimeter (Hounam 1961). Analyses based on these tank evaporation measurements are given in the Review of Australia's Water Resources: Monthly Rainfall and Evaporation (1968).

Evaporation measurements. In 1966, the Class-A Pan became the standard equipment used by the Bureau of Meteorology for measuring evaporation from a free water surface. The Class-A Pan network had been steadily increased to about 330 stations throughout Australia by 1979.

Screens to prevent the consumption of water by birds have been progressively fitted to instruments in the network since 1967 and by 1979 nearly all of them had been so fitted. Experiments have shown that measurements taken with an instrument after installation of a screen need to be increased on the average by 7 per cent to compensate for consequential reduction in evaporation. Corrections have been applied to station records as from the date of installation of a screen.

Class-A Pan data for the period January 1967 to May 1974 inclusive have been examined. Analyses have been prepared showing the distribution of average pan evaporation over Australia during this period (see *Climatic Atlas of Australia, Map Set 3, Evaporation*). Generally, instruments located near such water expanses as rivers, reservoirs or irrigation systems record lower evaporation due to the influence of water on local climatic elements, notably humidity (Hoy and Stephens 1975).

Average annual evaporation. The average annual Class-A Pan evaporation (mm) over Australia is shown in Plates 20–21, pages 30–31.

Annual pan evaporation over Australia is high, ranging from 4500 mm in the Great Sandy Desert region of Western Australia to 1200 mm in the alpine areas of south-eastern Australia, and 900 mm in south-west Tasmania. About 75 per cent of the continent has annual evaporation exceeding 2,500 mm. In central and north-west parts of the continent the annual evaporation is twenty times the annual rainfall. Evaporation on the arid north-west coast of Western Australia in the vicinity of Port Hedland (3600 mm) is comparable with upland areas of central Australia around Alice Springs.

Australian evaporation figures are high in comparison to those of North America. In the United States, for instance, the average pan evaporation varies from 3600 mm in the dry south-west (Arizona) to 600 mm in the extreme north-east and north-west, where conditions are relatively humid (Baldwin 1973).

In arid areas of Asia and the Middle East available pan evaporation measurements indicate that average annual values may be up to 20 per cent higher than in Australia. For example, average annual pan evaporation measured at Karga (Egypt) for the period 1964–1971 was 5300 mm (Egyptian Meteorological Authority).

Average evaporation in mid-seasonal months. Average pan evaporation analyses for the mid-seasonal months January and July are shown in Plates 20–21, pages 30–31.

In January, evaporation averages over most of the continent are the highest for any month and the extremely high figures of about 600 mm (19 mm daily) in the Gibson and Simpson Deserts are notable. It is estimated that January figures for individual months may reach as high as 700 mm in these desert regions.

In July, relatively high figures maintained in the north' (>200 mm) contrast with low figures in the south (<100 mm). In higher mountain areas of south-eastern Australia evaporation in this month is as low as 20 mm.

Evaporation in relation to water studies. Class-A Pan evaporation measurements exceed the previous sunken tank measurements by amounts up to 60 per cent in the dry high radiation areas of the north-west interior of the continent (*Climatic Atlas, Map Set 3*).

The increase in pan evaporation in relation to sunken tank measurements is significant in such studies as water conservation, effective rainfall and drought. Earlier studies incorporating tank evaporation may need review in relation to the higher Class-A Pan figures.

In southern Australia the marked seasonal variation in evaporation is significant in agriculture and pastoral drought appraisal. Drought existing in spring, for instance, intensifies rapidly as evaporation increases during summer before relief rains arrive.

In northern Australia evaporation reaches a maximum about November and a high level of evaporation is maintained if summer rains are delayed or are deficient. In this type of situation pastoral conditions may deteriorate rapidly.

As more Class-A Pan data become available in Australia improved evaporation analyses will enable more detailed water studies to be made.

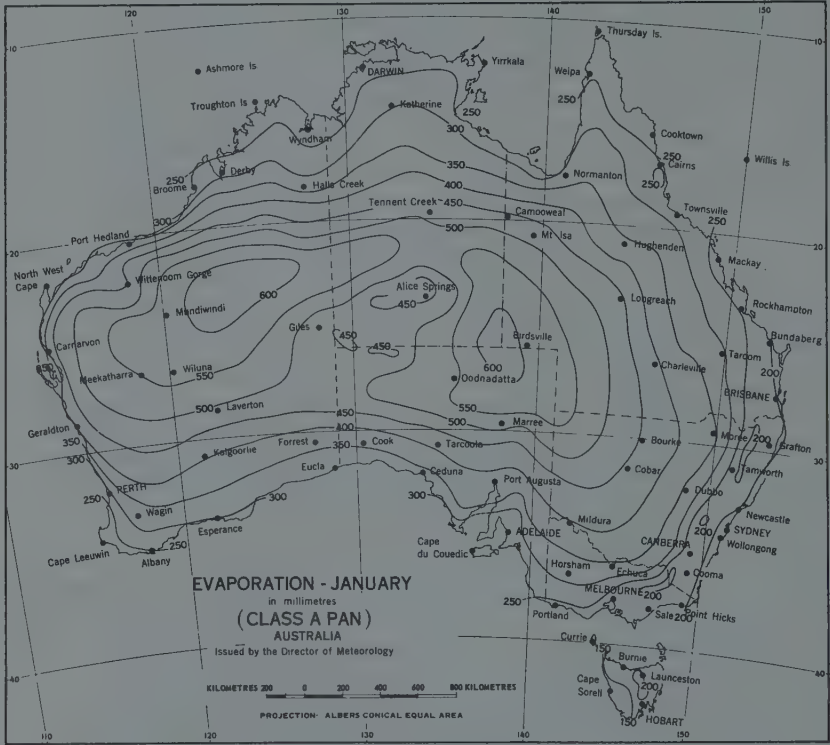


PLATE 20

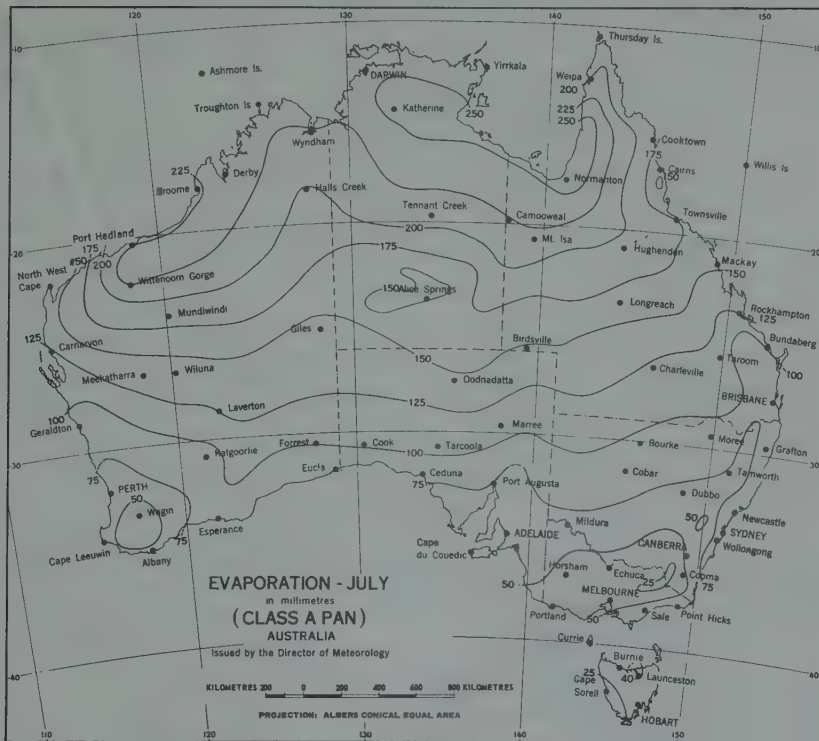


PLATE 21

Winds

The mid-latitude anticyclones are the chief determinants of Australia's two main prevailing wind streams. In relation to the west-east axes of the anticyclones these streams are easterly to the north and westerly to the south. The cycles of development, motion and decay of low pressure systems to the north and south of the anticyclones result in diversity of wind flow patterns. Wind variations are greatest around the coasts where diurnal land and sea breeze effects are important.

Wind roses for the months of January and July at 9 a.m. and 3 p.m. at selected stations are shown in Plates 22–25 inclusive, pages 32–33, extracted from *Climatic Atlas of Australia, Map Set 8* (1979). The wind roses show the percentage frequency of direction (eight points of compass) and speed ranges of winds.

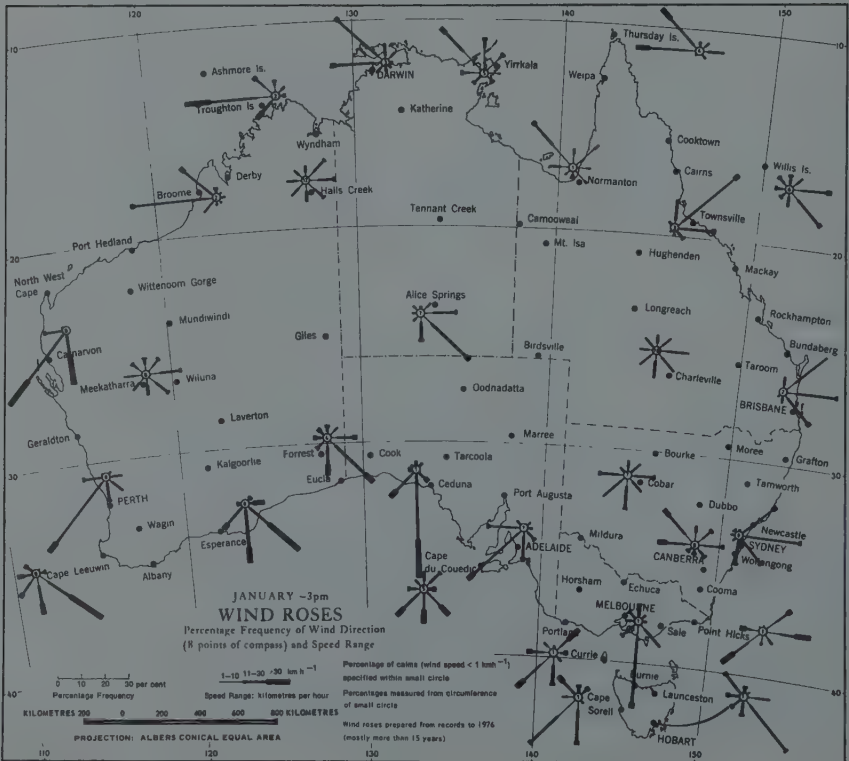
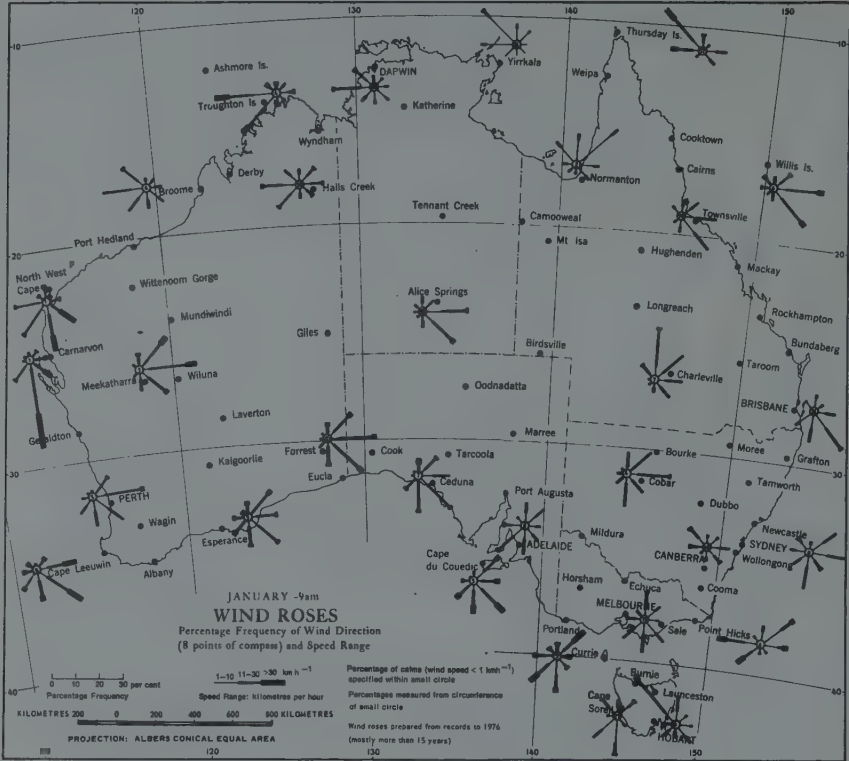
Orography affects the prevailing wind pattern in various ways such as the channelling of winds through valleys, deflection by mountains and cold air drainage from highland areas. An example of this channelling is the high frequency of north-west winds at Hobart caused by the north-west south-east orientation of the Derwent River Valley.

Average wind speeds and prevailing directions at Australian capitals are included in the climatic tables on pages 36–43. Perth is the windiest capital with an average wind speed of 15.6 kilometres per hour; Canberra is the least windy with an average speed of 5.8 kilometres per hour.

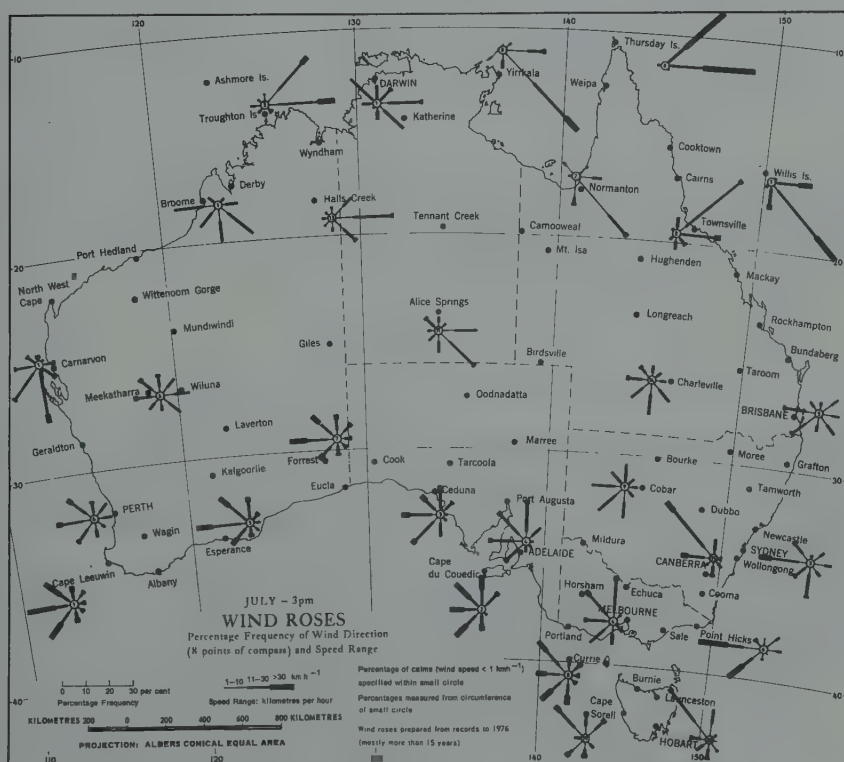
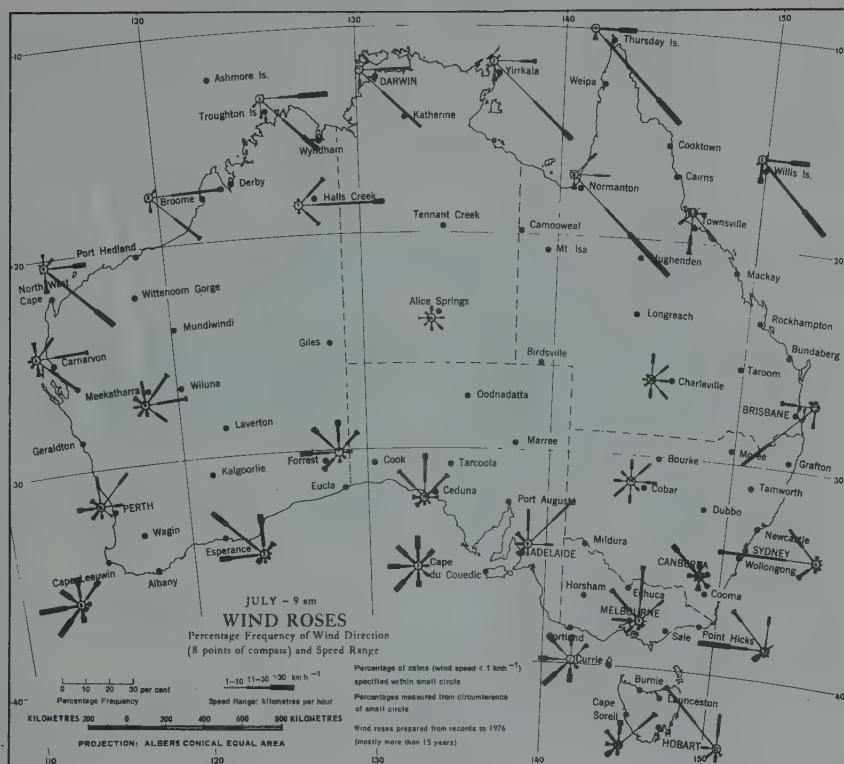
The highest wind speeds and wind gusts recorded in Australia have been associated with tropical cyclones. The highest recorded gust was 246 kilometres per hour during a cyclone at Onslow, Western Australia in 1975 and gusts reaching 200 kilometres per hour have been recorded on several occasions in northern Australia with cyclone visitations. The highest gusts recorded at Australian capitals were 217 kilometres per hour at Darwin and 156 kilometres per hour at Perth.

Estimates of the extreme wind gust expected in a given return period* have been derived for places through Australia (Whittingham, 1964). On this basis, for example, Darwin would have an extreme gust for a return period of 10 years of 140 kilometres per hour, Melbourne 135 and Perth 130.

*Return period is the average period between successive occurrences equal to, or greater than, a given speed. For example the extreme wind gust for a return period of 10 years can be expected to occur once in 10 years on the average.



PLATES 22 and 23



PLATES 24 and 25

Floods

Widespread flood rainfall may occur anywhere in Australia but it has a higher incidence in the north and in the eastern coastal areas. It is most economically damaging along the shorter streams flowing from the eastern uplands eastward to the seaboard of Queensland and New South Wales. These flood rains are notably destructive in the more densely populated coastal river valleys of New South Wales—the Tweed, Richmond, Clarence, Macleay, Hunter and Nepean-Hawkesbury—all of which experience relatively frequent flooding. Although chiefly summer rains, they may occur in any season.

The great Fitzroy and Burdekin river basins of Queensland receive flood rains during the summer wet season. Much of the run-off due to heavy rain in north Queensland west of the eastern uplands flows southward through the normally dry channels of the network of rivers draining the interior lowlands into Lake Eyre. This widespread rain may cause floods over an extensive area, but it soon seeps away or evaporates, occasionally reaching the lake in quantity. The Condamine and other northern tributaries of the Darling also carry large volumes of water from flood rains south through western New South Wales to the Murray and flooding occurs along their courses at times.

Flood rains occur at irregular intervals in the Murray-Murrumbidgee system of New South Wales and Victoria, the coastal streams of southern Victoria and the north coast streams of Tasmania.

Droughts

Drought, in general terms, refers to an acute water shortage. This is normally due to rainfall deficiency but with other parameters contributing to the actual water availability. The best single measure of water availability in Australia is rainfall, although parameters such as evaporation and soil moisture are significant, or even dominant, in some situations.

Droughts have severe economic effects in Australia and during the years 1864–1973 inclusive there have been at least eight major droughts affecting the greater part of Australia and at least seven other droughts of lesser severity affecting extensive areas (Foley 1957 (ii)). The droughts of 1895–1903 and 1958–68 were probably the most disastrous in their effects on primary industry.

Gibbs and Maher (1967), having defined a drought year at a certain station as one with the year's rainfall in the first decile range, concluded that the occurrence of areas in the first decile range on annual decile maps for the period 1885–1965 corresponded rather well with drought areas discussed by Foley (1957).

One method of assessing the incidence of rainfall deficiency is the analysis of the distribution of annual rainfalls less than the median (Gaffney 1975). The range between the 50 percentile (median) and the 10 percentile gives a measure of the variation in magnitude of annual rainfalls less than the median. The ratio of this range to the 30 percentile value may be used as an index of rainfall deficiency incidence or drought incidence, i.e.:

$$\text{Index of drought incidence} = \left\{ \frac{50-10}{30} \right\} \text{ percentile}$$

For example, the indexes for Onslow (north-west coast of Western Australia) and similarly, for Cape Otway (south coast of Victoria) are derived thus:

$$\begin{aligned} \text{Index for Onslow} &= \left\{ \frac{222-64}{145} \right\} \text{ mm} = 1.09 \\ \text{Index for Cape Otway} &= \left\{ \frac{865-716}{801} \right\} \text{ mm} = 0.19 \end{aligned}$$

Plate 26, on the following page, shows the distribution of the index of drought incidence over Australia. The intrusions of high index values from the interior to the central coast of Queensland and across western New South Wales are noteworthy. The extreme values on the north-west coast of Western Australia are among the highest in Australia (e.g. Onslow 1.09) due to the dependence of the rainfall on random cyclone tracks.

The Bureau of Meteorology commenced the issue of *Drought Reviews* in June 1965. These reviews provide a summary of serious rainfall deficiencies and are issued monthly when serious or severe deficiencies exist in any of the rainfall districts. The deficiency criteria are based on monthly rainfall decile analyses. A review of droughts in Australia to 1968 is included in Year Book No. 54, 1968. Summaries of subsequent drought periods may be obtained from the *Drought Reviews*.

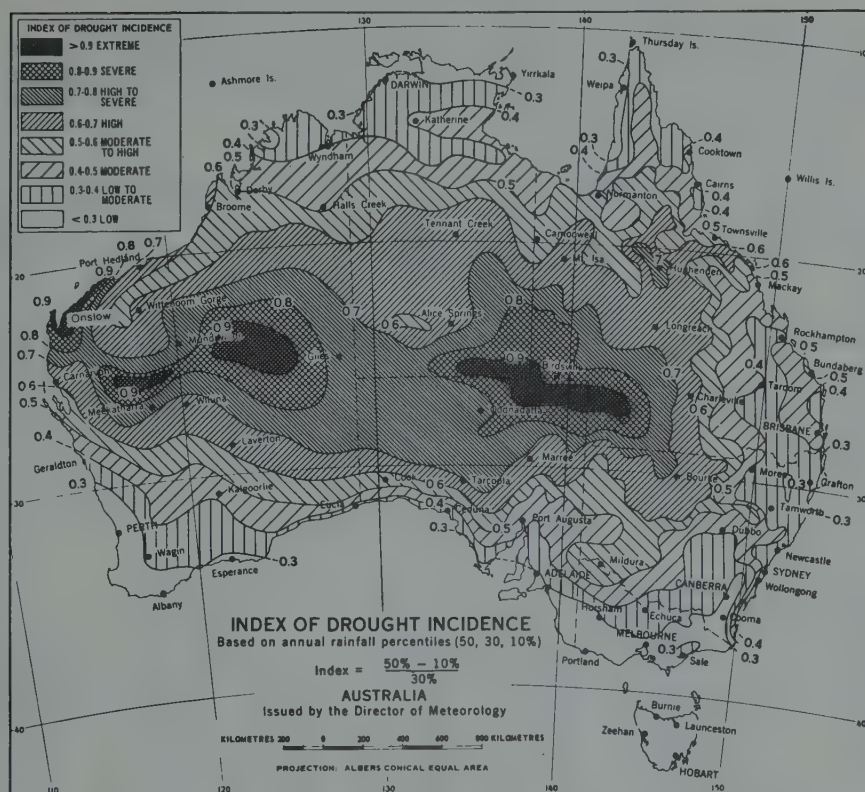


PLATE 26

Climatic discomfort

For details see Year Book No. 62.

Climatic data for capital cities

The averages for a number of elements determined from long-period observations at the Australian capitals to 1976 inclusive, are given in the following pages. Extremes generally cover all available data to 1978 inclusive, whereas averages may only refer to present sites.

CLIMATIC DATA: PERTH, WESTERN AUSTRALIA

(Lat. 31° 57' S., Long. 115° 51' E. Height above M.S.L. 19.5 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 22 metres)						Mean amt evapora- tion (mm)	No. days thun- der	Mean daily amt clouds	
		Average (km/h)	Highest mean speed in one day (km/h)	High- est gust speed (km/h)	Prevailing direction		9 a.m., 3 p.m., (a)			No. clear days	
					9 a.m.	3 p.m.					
No. of years of record	91	30(b)	77	63	30(b)	30(b)	9(c)	79	30(b)	30(b)	
January	1012.6	17.5	48.2	26/76*	81	E SSW	280	0.9	2.3	14	
February	1013.0	17.2	40.8	4/73	113	ENE SSW	241	0.7	2.5	13	
March	1015.2	16.2	51.9	28/75	113	E SSW	214	0.7	2.8	12	
April	1017.9	13.7	50.7	25/00	130	ENE SSW	124	0.9	3.4	9	
May	1017.9	13.5	44.5	8/73	119	NE WSW	83	1.8	4.3	6	
June	1017.5	13.5	48.6	17/27	129	N NW	59	1.8	4.7	5	
July	1018.8	14.2	53.9	20/26	137	NNE W	58	1.5	4.5	5	
August	1018.8	15.1	51.3	15/03	156	N WNW	75	1.3	4.5	5	
September	1018.4	15.1	45.9	11/05	109	ENE SSW	105	0.7	3.9	8	
October	1017.0	16.1	43.0	6/16	105	SE SW	158	0.8	3.8	8	
November	1015.5	17.2	48.2	26/75*	101	E SW	205	0.8	3.1	9	
December	1013.4	17.7	44.5	24/75	103	E SSW	241	0.9	2.6	13	
Year { Totals	..	..	..	..	..	..	1,843	12.8	..	108
Year { Averages	1016.3	15.6	..	..	..	E SSW	..	..	3.5	..
Year { Extremes	..	..	53.9	..	156	..	..	..	..	..
20/7/26											

(a) Scale 0-8. (b) Standard thirty years normal (1911-1940). (c) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (°Celsius)			Extreme air temperature (°Celsius)			Extreme temperature (°Celsius)			Mean daily hours sun- shine
	Mean max.	Mean min.	Mean	Highest	Lowest	Highest in sun	Lowest on grass			
No. of years of record	82	82	82	84	84	63(a)	82	78		
January	29.6	17.7	23.5	44.7	12/78	9.2	20/25	10.5		
February	29.9	17.9	23.7	44.6	8/33	8.7	1/02	10.0		
March	27.8	16.6	22.2	41.3	14/22	7.7	8/03	8.9		
April	24.5	14.1	19.2	37.6	9/10	4.1	20/14	7.2		
May	20.7	11.6	16.1	32.4	2/07	1.3	11/14	5.9		
June	18.2	9.9	14.1	28.1	5/75	1.6	22/55	4.8		
July	17.3	9.0	13.2	26.3	17/76	1.2	7/16	5.3		
August	17.9	9.1	13.5	27.8	21/40	1.9	31/08	6.2		
September	19.4	10.1	14.8	32.7	30/18	2.6	6/56	7.2		
October	21.2	11.5	16.3	37.3	29/67	4.2	6/68	8.3		
November	24.6	14.0	19.2	40.3	24/13	5.6	1/04	9.7		
December	27.3	16.2	21.7	42.3	31/68	8.6	29/57	10.8		
Year { Averages	23.2	13.1	18.2	..	..	..	..	7.9
Year { Extremes	..	..	..	44.7	..	1.2	..	..
				12/1/78	7/7/16	22/1/14	31/5/64			

(a) Records discontinued 1963. (b) 8/1903 and 16/1967. (c) 8/1952 and 6/1956.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pres- sure mean 9 a.m. (mb)	Rainfall (millimetres)							Fog mean No. days				
		Rel. hum. (%) at 9 a.m.			Mean No. of days of rain	Greatest monthly	Least monthly	Greatest in one day					
		Mean	Highest mean	Lowest mean									
No. of years of record	30(a)	30(a)	79	79	100	100	103	100	100	79			
January	14.8	51	63	41	8	3	55	1879	Nil	(b)	44	27/79*	0.2
February	14.7	51	65	43	11	3	166	1955	Nil	(b)	87	17/55	0.3
March	14.7	57	66	46	20	4	145	1934	Nil	(b)	77	9/34	0.4
April	13.4	61	75	51	46	8	149	1926	Nil	1920	67	30/04	0.9
May	12.4	70	81	60	125	14	308	1879	14	1964	76	17/42	1.3
June	11.4	75	85	68	185	17	476	1945	55	1877	99	10/20	1.4
July	10.9	76	88	69	175	18	425	1958	61	1876	76	4/91*	1.0
August	10.7	71	83	62	138	18	318	1945	12	1902	74	14/45	1.0
September	11.6	66	75	58	81	14	199	1923	9	1916	47	18/66	0.3
October	11.7	60	75	52	55	11	200	1890	1	1969	55	1/75	0.4
November	12.7	52	66	41	21	6	71	1916	Nil	1891	39	29/56	0.7
December	13.9	51	63	39	14	4	81	1951	Nil	(b)	47	3/51	0.2
Year {	Totals	..	..	..	879	120	..	..	..	..	..	..	8.1
	Averages	12.7	62	..	..	..	..	..	..	..	..	..	..
	Extremes	..	..	88	39	..	..	476	..	Nil	(b)	99	..
6/1945													
10/6/20													

(a) Standard thirty years normal (1911-1940). (b) Various years.

Figures such as 26/76, 29/56, etc. indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk (*) relate to nineteenth century.

CLIMATIC DATA: DARWIN, NORTHERN TERRITORY

(Lat. 12° 28' S., Long. 130° 51' E. Height above M.S.L. 30 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 36 metres)						Mean amt evapora- tion (mm)	No. days thunder	Mean daily amt clouds 9 a.m., 3 p.m., 9 p.m. (a)	No. of clear days
		Average (km/h)	Highest mean speed in one day (km/h)	High- est gust speed (km/h)	Prevailing direction						
					9 a.m.	3 p.m.					
No. of years of record	90	20	..	24(b)	..	..	8(c)	35	35	35	35
January	1,006.2	9.3	..	106	W	NW	225	12.9	5.9	1	1
February	1,006.3	10.6	..	101	W	NW	187	10.2	5.8	1	1
March	1,007.2	7.5	..	157	W	NW	190	10.6	5.2	3	3
April	1,009.3	8.8	..	67	SE	NW	218	4.0	2.9	10	10
May	1,010.9	9.6	..	62	SE	E	223	0.5	2.0	16	16
June	1,012.2	10.1	..	64	SE	E	206	0.0	1.4	19	19
July	1,012.8	8.9	..	62	SE	E	229	0.0	1.3	20	20
August	1,012.6	8.6	..	72	SE	NW	238	0.0	1.1	20	20
September	1,011.7	8.6	..	64	ENE	NW	270	1.0	1.8	16	16
October	1,010.5	9.8	..	85	NE	NW	285	5.3	2.7	9	9
November	1,008.7	8.6	..	117	NW	NW	260	11.8	3.9	4	4
December	1,006.9	9.8	..	217	NW	NW	240	14.2	4.9	2	2
Year { Totals	..	..	..	..	..	..	2,773	70.5	..	121	121
Year { Averages	1,009.6	9.2	..	..	SE	NW	..	..	3.2	..	..
Year { Extremes	..	..	..	217	..	..	..	..	..	..	..

(a) Scale 0-8.

(b) Several incomplete years.

(c) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (° Celsius)			Extreme air temperature (° Celsius)		Extreme temperature (° Celsius)		Mean daily hours sun- shine
	Mean max.	Mean min.	Mean	Highest	Lowest	Highest in sun	Lowest on grass	
No. of years of record	90	90	90	94(a)	94(a)	26(b)	..	21
January	32.2	25.0	28.6	37.8	20.0	75.6	26/42	5.9
February	31.9	24.8	28.4	38.3	20/87*	73.2	(c)	5.9
March	32.4	24.8	28.6	38.9	(d)	74.3	23/38	6.8
April	33.1	24.2	28.7	40.0	7/83*	72.8	1/38	8.6
May	32.3	22.4	27.4	39.1	8/84*	(e) 71.2	5/20	9.3
June	30.9	20.4	25.7	39.0	17/37	68.5	2/16	9.7
July	30.4	19.6	25.1	36.7	17/88*	68.9	28/17	9.8
August	31.4	20.8	26.1	37.0	30/71*	69.1	28/16	10.4
September	32.7	23.2	27.9	38.9	20/82*	69.5	(f)	10.0
October	33.6	25.0	29.3	40.5	17/92*	71.4	30/38	9.5
November	33.8	25.3	29.6	39.6	9/84*	77.0	14/37	8.6
December	33.2	25.3	29.3	38.9	20/82*	76.2	26/23	7.1
Year { Averages	32.3	23.3	27.9	..	..	..	..	8.5
Year { Extremes	..	..	..	40.5	10.4	77.0	..	..
				17/10/1892	29/7/1942	14/11/37		

(a) Years 1882-1941 at Post Office; 1942-1966 at Aerodrome; 1967-1978 at Regional office; sites not strictly comparable. (b) Records discontinued 1942. (c) 5/1938 and 23/1938. (d) 26/1883 and 27/1883. (e) Recorded at Darwin Aerodrome. All other Statistics from 1967 to 1971 at Regional Office. (f) 28/1916 and 3/1921.

HUMIDITY, RAINFALL AND FOG

Month	Vapour pressure mean 9 a.m. (mb)	Rainfall (millimetres)							Fog mean No. days
	Rel. hum. (%) at 9 a.m.	Mean	Highest mean	Lowest mean	Mean No. of days of rain	Greatest monthly	Least monthly	Greatest in one day	
No. of years of record	85(a)	90	57(b)	57(b)	86(c)	74	109(d)	109(d)	35
January	31.1	81	89	69	391	19	746	1974	68
February	31.1	81	88	71	330	18	815	1969	13
March	30.7	80	84	69	260	17	1014	1977	21
April	27.0	72	80	60	103	8	603	1891	Nil
May	21.8	65	76	49	14	1	356	1968	Nil
June	18.7	63	75	52	3	0	76	1973	Nil
July	17.6	62	71	47	1	0	65	1900	Nil
August	20.6	66	73	53	2	0	84	1947	Nil
September	24.7	68	73	54	13	2	108	1942	Nil
October	27.7	68	72	60	50	5	339	1954	Nil
November	29.3	70	75	62	126	11	399	1938	10
December	30.5	75	83	65	243	16	665	1974	25
Year { Totals	..	..	..	..	1,536	97	..	..	..
Year { Averages	25.9	71	..	..	..	..	..	..	..
Year { Extremes	..	..	89	47	..	..	1014	3/77	Nil
								(f)	296
									7/1/1897

(a) Records to 1966 at Aerodrome. (b) 1882 to 1938 at Post Office. (c) 1869 to 1962 at Post Office; 8 years missing. (d) Highest or lowest at either Post Office, Aerodrome or Regional Office Sites. (e) Various years. (f) April to October. Various years.

Figures such as 2/82, 26/42, etc., indicate in respect of the month of reference, the day and year of occurrence. Dates marked with an asterisk (*) relate to nineteenth century.

CLIMATIC DATA: ADELAIDE, SOUTH AUSTRALIA

(Lat. 34° 46' S., Long. 138° 35' E. Height above M.S.L. 43 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 22 metres)						Mean amt evapora- tion (mm)	No. days thun- der	Mean daily amt clouds 9 a.m., 3 p.m., 9 p.m. (a)	No. of clear days
		Average (km/h)	Highest mean speed in one day (km/h)	High- est gust speed (km/h)	Prevailing direction						
					9 a.m.	3 p.m.					
No. of years of record	119	20(b)	20(b)	61	30(c)	30(c)	9(d)	104	108	61	
January	1,013.2	12.8	32.2	12/70	116	SW	SW	261	1.5	3.0	12.0
February	1,014.3	12.1	28.8	25/67	106	NE	SW	224	1.1	3.0	10.7
March	1,017.2	11.4	30.7	24/64	126	S	SW	180	0.8	3.3	10.7
April	1,019.8	11.4	37.4	10/56	130	NE	SW	126	1.0	4.2	6.8
May	1,020.1	11.3	37.8	19/53	113	NE	NW	80	1.0	4.7	4.5
June	1,019.8	11.6	29.7	16/70	108	NE	N	57	0.9	5.0	3.8
July	1,019.9	11.8	32.9	13/64	148	NE	NW	61	0.8	4.9	3.5
August	1,019.0	12.8	38.2	8/55	121	NE	SW	76	1.1	4.2	4.7
September	1,017.6	13.2	34.9	16/65	111	NNE	SW	113	1.3	4.3	5.5
October	1,016.0	13.6	35.4	1/68	121	NNE	SW	169	1.9	4.2	5.6
November	1,015.1	13.9	36.3	14/68	130	SW	SW	202	2.0	3.9	6.5
December	1,013.3	13.5	31.1	18/69	121	SW	SW	247	1.5	3.4	8.8
Year { Totals	..	..	..	..	..	..	..	1,795	14.9	..	83.1
Year { Averages	1,017.1	..	..	..	..	NE	SW	..	..	4.0	..
Year { Extremes	..	..	38.2	8/8/65	148	..	..	..	..	..	..

(a) Scale 0-8. (b) Records of cup anemometer. (c) Standard 30 years normal (1931-1960). (d) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (°Celsius)			Extreme air temperature (°Celsius)			Extreme temperature (°Celsius)			Mean daily hours sun- shine
	Mean max.	Mean min.	Mean	Highest	Lowest	Highest in sun	Lowest on grass			
No. of years of record	119	119	119	122	122	54(a)	117	94		
January	29.6	16.4	23.0	47.6	12/39	7.3 21/84*	82.3 18/82*	1.8 3/77	9.9	
February	29.4	16.6	23.0	45.3	12/99*	7.5 23/18	76.9 10/00	2.1 23/26	9.3	
March	26.9	15.1	21.0	43.6	9/34	6.6 21/33	78.9 17/83*	0.1 21/33	7.9	
April	22.7	12.7	17.7	37.0	5/38	4.2 15/59*	68.3 1/83*	-3.5 30/77	6.0	
May	18.7	10.3	14.5	31.9	4/21	2.7 (b)	64.6 12/79*	-3.6 19/28	4.8	
June	15.8	8.3	12.1	25.6	4/57	0.3 (c)	59.3 18/79*	-6.1 24/44	4.2	
July	15.0	7.3	11.1	26.6	29/75	0.0 24/08	56.9 26/90*	-5.5 30/29	4.3	
August	16.4	7.8	12.1	29.4	31/11	0.2 17/59*	60.0 31/92*	-5.1 11/29	5.3	
September	18.9	9.0	14.0	35.1	30/61	0.4 4/58*	71.4 23/82*	-3.9 25/27	6.2	
October	22.0	10.9	16.5	39.4	21/22	2.3 20/58*	72.2 30/21	-3.0 22/66	7.2	
November	25.2	12.9	19.1	45.3	21/65*	4.9 2/09	74.9 20/78*	-0.6 17/76	8.6	
December	27.8	14.9	21.4	45.9	29/31	6.1 (d)	79.8 7/99*	-1.0 19/76*	9.4	
Year { Averages	22.4	11.8	17.1	..	..	..	..	..	6.9
Year { Extremes	..	..	..	47.6	0.0	82.3	-6.1	..	..
				12/1/39	24/7/08	18/1/62	24/6/44			

(a) Discontinued 1934 incomplete 1931-1934. (b) 26/1895 and 24/04. (c) 27/1876 and 24/44. (d) 16/1861 and 4/06.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pres- sure mean 9 a.m. (mb)	Rel. hum. (%) at 9 a.m.			Rainfall (millimetres)				Fog mean no. days		
		Mean	Highest mean	Lowest mean	Mean mthly	Mean No. of days of rain	Greatest monthly	Least monthly		Greatest in one day	
No. of years of record	108	108	108	108	137	137	140	140	140	76	
January	11.9	41	59	29	20	4	84	1941	Nil (a)	58 2/89*	0.0
February	12.5	44	61	30	21	4	155	1925	Nil (a)	141 7/25	0.0
March	12.0	47	62	29	24	5	117	1878	Nil (a)	89 5/78*	0.0
April	11.5	57	72	37	44	9	154	1971	Nil (a)	80 5/60*	0.0
May	10.8	67	77	49	69	13	197	1875	3	1934 70 1/53*	0.4
June	10.0	75	84	63	72	15	218	1916	6	1958 54 1/20	1.1
July	9.5	76	87	66	67	16	138	1890	10	1899 44 10/65*	1.3
August	9.7	70	80	54	62	16	157	1852	8	1944 57 19/51*	0.6
September	10.0	61	72	44	51	13	148	1923	7	1951 40 20/23	0.2
October	10.2	52	67	29	44	11	133	1949	1	1969 57 16/08	0.0
November	10.5	45	64	31	31	8	113	1839	1	1967 75 12/60	0.0
December	11.3	42	56	31	26	6	101	1861	Nil (a)	1904 61 23/13	0.0
Year { Totals	..	..	..	..	531	120	..	..	..	..	3.6
Year { Averages	10.5	56	..	..	..	..	..	..	..	..	..
Year { Extremes	..	..	87	29	..	..	218	..	Nil (b)	141	..
							6/1916			7/2/25	

(a) Various years. (b) December to April, various years.

Figures such as 3/55, 21/84, etc. indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk(*) relate to nineteenth century.

CLIMATIC DATA: BRISBANE, QUEENSLAND

(Lat. 27° 28' S., Long. 153° 2' E. Height above M.S.L. 41 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 32 metres)						Mean amt evapo- ration (mm)	Mean daily amt clouds	
		Aver- age (km/h)	Highest mean speed in one day (km/h)	Highest gust speed (km/h)	Prevailing direction		No. days thun- der		9 a.m., 3 p.m., (a)	No. clear days
					9 a.m.	3 p.m.				
No. of years of record	89	60	61	61	25(b)	25(b)	9(c)	89	84	68
January	1,011.7	12.1	31.8	23/47	109	SE	ENE	189	4.6	3.3
February	1,012.5	11.9	37.3	21/52	108	SSW	ENE	150	3.7	4.8
March	1,014.6	11.4	32.7	1/29	106	SSW	ESE	149	2.3	4.3
April	1,017.3	10.5	26.8	3/25	104	SW	ESE	127	1.4	3.6
May	1,018.3	9.8	28.8	17/26	87	SW	WSW	89	0.6	3.3
June	1,018.5	10.0	30.5	14/28	95	SW	WSW	70	0.5	3.3
July	1,018.8	9.7	35.4	13/54	111	SW	WSW	77	0.4	2.9
August	1,018.8	10.0	23.8	4/35	100	SW	NE	105	1.4	2.6
September	1,017.6	10.5	25.9	1/48	102	SW	NE	133	2.8	2.8
October	1,015.9	11.1	25.3	1/41	100	SSW	NE	168	4.4	3.5
November	1,014.1	11.4	24.9	10/28	111	SE	NE	191	5.7	3.9
December	1,012.1	11.9	31.3	15/26	127	SSE	NE	209	6.6	4.3
Year { Totals	..	..	..	..	..	..	1,656	34.2	..	97.7
Year { Averages	1,015.9	10.8	..	..	..	SW	ENE	..	..	3.6
Year { Extremes	..	..	37.3	..	127	..	..	..	..	..
			21/2/52							

(a) Scale 0-8.

(b) 1950-1974.

(c) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (° Celsius)			Extreme air temperature (° Celsius)			Extreme temperature (° Celsius)		Mean daily hours sun- shine			
	Mean max.	Mean min.	Mean	Highest	Lowest	Highest in sun	Lowest on grass					
No. of years of record	89	89	89	90	90	50(a)	90	67				
January	29.4	20.6	25.0	43.2	26/40	14.9	4/93*	76.2	2/37	9.9	4/93*	7.5
February	28.9	20.4	24.7	40.9	21/25	14.7	21/31	74.0	6/10	9.5	22/31	7.0
March	27.8	19.2	23.5	38.8	13/65	11.3	29/13	72.5	6/39	7.4	29/13	6.8
April	26.0	16.4	21.2	36.1	19/73	6.9	25/25	67.7	11/16	2.6	24/25	7.1
May	23.1	13.1	18.0	32.4	21/23	4.8	30/51	63.9	1/10	-1.2	8/97*	6.8
June	20.8	10.7	15.7	31.6	19/18	2.4	29/08	57.8	3/18	-3.7	23/88*	6.6
July	20.3	9.4	14.9	29.1	23/46	2.3	(b)	63.4	20/15	-4.5	11/90	7.0
August	21.8	10.0	15.9	32.8	14/46	2.7	13/64	61.1	20/17	-2.7	9/99*	7.8
September	24.0	12.7	18.3	38.3	22/43	4.8	1/96	68.6	26/03	-0.9	1/89*	8.3
October	26.1	15.8	20.9	40.7	30/58	6.3	3/99*	69.7	31/18	1.6	8/89*	8.2
November	27.8	17.9	22.9	41.2	18/13	9.2	2/05	72.4	7/89*	3.8	1/05	8.2
December	29.1	19.6	24.5	41.1	26/93*	13.5	5/55	74.4	28/42	9.5	3/94*	8.1
Year { Averages	25.4	15.5	20.5	..	..	..	..	..	..	..	..	7.5
Year { Extremes	..	..	..	43.2	..	2.3	..	76.2	..	-4.5	..	..
				26/1/1940				2/1/1937		11/7/1890		

(a) 1887-1926, 1936-March 1947.

(b) 12/1894 and 2/1896.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pres- sure mean 9 a.m. (mb)	Rel. hum. (%) at 9 a.m.			Rainfall (millimetres)				Fog mean No. days	
		Mean	Highest mean	Lowest mean	Mean No. of days of rain mthly	Greatest monthly	Least monthly	Greatest in one day		
No. of years of record	64	89	90	90	124	116	124	124	89	
January	21.7	65	79	53	167	13	872	1974	8	
February	22.0	69	82	55	161	14	1,026	1893	15	
March	20.9	71	85	56	144	15	865	1870	Nil	
April	17.5	70	80	56	88	11	388	1867	1	
May	14.3	71	85	59	69	9	352	1876	Nil	
June	12.1	72	84	54	69	8	647	1967	Nil	
July	11.1	70	88	54	54	7	330	1973	Nil	
August	11.7	66	80	53	48	7	373	1879	Nil	
September	13.8	63	76	47	48	8	138	1886	Nil	
October	16.0	60	72	48	74	9	456	1972	(c)	
November	18.1	59	72	45	95	10	315	1917	Nil	
December	20.1	61	70	51	129	12	441	1942	9	
Year {	Totals	1,157	123
	Averages	16.6	66
	Extremes	88	45	..	1,026	..	Nil	465
							2/1893	Various	21/1/1887	

(a) 1841 and 1951.

(b) 1862, 1869, 1880 and 1977.

(c) Less than 1 mm.

Figures such as 23/47, 4/93, etc. indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk(*) relate to nineteenth century.

CLIMATIC DATA: SYDNEY, NEW SOUTH WALES

(Lat. 33° 52' S., Long. 151° 12' E. Height above M.S.L. 42 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 22 metres)						Mean amt evapora- (mm)	No. days thun- der	Mean daily amt clouds		
		Average (km/h)	Highest mean speed in one day (km/h)	High- est gust speed (km/h)	Prevailing direction		9 a.m.			3 p.m.	9 a.m. 3 p.m. (a)	No. clear days
No. of years of record	66	25(b)	25(b)	25(b)	25(b)	25(b)	6(c)	56	114	65		
January	1,012.7	12.3	30.3	10/49	150	NE	NE	186	3.3	4.7	4.9	
February	1,014.2	11.6	30.3	18/57	101	NE	ENE	169	2.5	4.8	4.5	
March	1,016.4	10.5	33.3	10/44	93	WNW	ENE	186	1.7	4.4	5.7	
April	1,018.3	10.2	36.2	24/44	116	W	ENE	180	1.3	4.1	7.3	
May	1,018.7	10.5	33.8	18/55	101	W	ENE	186	0.9	3.9	7.7	
June	1,018.9	11.6	36.0	10/47	135	W	WSW	180	0.8	4.0	8.0	
July	1,018.5	11.5	34.3	20/51	106	W	WSW	186	0.8	3.5	10.5	
August	1,017.9	12.1	39.6	9/51	109	WNW	WNW	155	1.4	3.3	10.1	
September	1,017.0	11.6	35.1	23/42	113	WNW	NE	150	1.8	3.5	9.1	
October	1,015.1	12.3	39.4	1/57	153	WNW	ENE	155	2.7	4.1	6.5	
November	1,013.4	12.4	31.9	21/54	114	WNW	ENE	150	3.6	4.5	5.2	
December	1,012.1	12.3	36.2	11/52	121	NE	ENE	155	3.8	4.6	4.8	
Year {	Totals	..	..	..	..	..	..	2,038	24.7	..	84.7
	Averages	1,016.1	11.6	WNW	ENE	4.2	..
	Extremes	39.6	..	153
				9/8/51								

(a) Scale 0-8. (b) Years 1938-1962 inclusive. (c) Sydney Airport, Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (°Celsius)			Extreme air temperature (°Celsius)			Extreme temperature (°Celsius)		Mean daily hours sun- shine			
	Mean max.	Mean min.	Mean	Highest	Lowest	Highest in sun	Lowest on grass					
No. of years of record	117	117	117	118	118	118	84(a)	118	55			
January	25.7	18.3	22.0	45.3	14/39	10.6	18/49	73.5	6.5	6/25	7.2	
February	25.4	18.4	21.9	42.1	8/26	9.6	28/63*	76.3	14/39	6.0	22/33	6.8
March	24.5	17.3	20.9	39.2	3/69*	9.3	14/86*	70.2	10/26	4.4	17/13	6.3
April	22.1	14.5	18.3	33.0	(b)	7.0	27/64*	62.3	10/77*	0.7	24/09	6.2
May	19.2	11.2	15.2	30.0	1/19	4.4	30/62*	54.3	1/96*	-1.5	25/17	5.8
June	16.6	9.1	12.8	26.9	11/31	2.1	22/32	52.1	2/23	-2.2	22/32	5.2
July	15.8	7.8	11.8	25.7	22/26	2.2	12/90*	51.9	19/77*	-4.4	4/93*	6.2
August	17.4	8.7	13.1	30.4	24/54	2.7	3/72*	65.0	30/78*	-3.3	4/09	6.8
September	19.6	10.8	15.2	34.6	26/65	4.9	2/45	61.2	12/78*	-1.1	17/05	7.1
October	21.9	13.3	17.6	37.4	4/42	5.7	6/27	66.8	20/33	0.4	9/05	7.3
November	23.5	15.3	19.4	40.3	6/46	7.7	1/05	70.3	28/99*	1.9	21/67	7.6
December	24.9	17.2	21.1	42.2	20/57	9.1	3/24	73.5	27/89*	5.2	3/24	7.4
Year { Averages	21.4	13.6	17.4	..	..	..	..	..	..	..	..	6.7
Extremes	..	..	..	45.3	..	2.1	..	76.3	..	-4.4	..	..
				14/1/39	22/6/32		14/2/39	4/7/1893				

(a) Records discontinued 1946. (b) 1/36 and 10/69.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pres- sure mean 9 a.m. (mb)	Rel. hum. (%) at 9 a.m.			Rainfall (millimetres)					Fog mean No. days			
		Mean	Highest mean	Lowest mean	Mean mthly	Mean No. of days of rain	Greatest monthly	Least monthly	Greatest in one day				
No. of years of record	100	100	101	101	117	117	118	118	118	55			
January	18.8	68	78	58	100	13	388	1911	6	1932	180	13/11	0.3
February	19.2	70	81	60	115	13	564	1954	3	1939	226	25/73*	0.6
March	18.3	74	85	62	131	14	521	1942	8	1965	281	28/42	1.5
April	15.0	74	87	63	126	13	622	1861	2	1868	191	29/60*	2.1
May	11.9	75	90	63	123	13	585	1919	4	1957	212	28/89*	2.7
June	10.2	76	89	63	133	12	643	1950	4	1962	131	16/84*	2.1
July	9.6	74	88	59	104	11	336	1950	2	1970	198	7/31	1.7
August	9.5	68	84	54	81	11	378	1899	1	1885	140	22/71	2.1
September	11.3	66	79	49	69	11	357	1879	2	1882	145	10/79*	0.9
October	13.0	62	77	46	76	12	283	(a)	2	1971	162	13/02	0.6
November	15.0	62	79	42	78	12	577	1961	2	1915	133	27/55	0.5
December	17.6	64	77	51	79	13	402	1920	6	1913	121	13/10	0.4
Year {	Totals	..	..	..	1,215	148	..	..	..	..	..	..	16.3
	Averages	14.1	69	..	..	..	..	..	..	..	..	..	..
	Extremes	..	..	90	42	..	..	643	6/1950	1	8/1885	281	..
												28/3/1942	

(a) 1916 and 1959.

Figures such as 10/49, 28/63, etc. indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk (*) relate to nineteenth century.

CLIMATIC DATA: CANBERRA, AUSTRALIAN CAPITAL TERRITORY

(Lat. 35° 19' S., Long. 149° 11' E. Height above M.S.L. 577 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 10 metres)						Mean amt evapora- tion (mm)	No. days thunder	Mean daily amt clouds	
		Average (km/h)	Highest mean speed in one day (km/h)	High- est gust speed (km/h)	Prevailing direction		9 a.m. 3 p.m.			No. clear days	
					9 a.m.	3 p.m.					
No. of years of record	36	44(b)	47(b)	40(c)	36(c)	36(c)	8(d)	36	36	36(e)	
January	1,012.1	6.6	24	24/33	121	NW	NW	242	3.3	4.1	
February	1,013.1	6.1	25	24/33	104	NW	NW	194	3.0	4.4	
March	1,016.0	5.3	29	28/42	111	SE	NW	165	1.7	4.2	
April	1,018.8	5.0	30	8/45	106	NW	NW	109	0.8	4.2	
May	1,019.0	4.4	21	27/58	104	NW	NW	71	0.4	4.5	
June	1,021.0	4.8	26	2/30	96	NW	NW	46	0.2	4.6	
July	1,020.2	5.0	38	7/31	102	NW	NW	54	0.1	4.4	
August	1,018.5	5.9	25	25/36	113	NW	NW	77	0.8	4.4	
September	1,017.4	6.0	28	28/34	107	NW	NW	115	1.1	4.1	
October	1,014.8	6.5	23	12/57	119	NW	NW	165	2.2	4.4	
November	1,011.9	6.9	28	28/42	128	NW	NW	200	3.3	4.4	
December	1,010.7	6.9	26	11/38	106	NW	NW	259	3.4	4.1	
Year {	Totals	..	..	..	..	..	..	1,697	20.3	82.8
	Averages	1,016.1	5.8	..	..	NW	NW	..	..	4.3
	Extremes	..	..	38	7/7/31	128	..	..	..	..

(a) Scale 0-8. (b) Recorded at Forestry and Timber Bureau, Yarralumla, where a cup anemometer is installed. (c) Recorded at Meteorological office, R.A.A.F. Fairbairn, where a Dines Pressure Tube anemometer is installed. (d) Class-A Pan. (e) 1940-75. Formerly assessed over 37-year period at Yarralumla.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (° Celsius)			Extreme air temperature (° Celsius)			Extreme temperature (° Celsius)		Mean daily hours sun- shine	
	Mean max.	Mean min.	Mean	Highest	Lowest	Highest in sun	Lowest on grass			
No. of years of record	36	36	36	40	40	..	28	37(a)		
January	27.5	12.9	20.2	41.4	31/68	1.8	1/56	-0.4	1/56	8.9
February	26.6	12.6	19.6	42.2	1/68	3.0	16/62	0.2	17/70	8.2
March	24.3	10.4	17.3	36.4	9/40	-1.1	24/67	-4.0	(b)	7.5
April	19.6	6.5	13.1	32.6	12/68	-3.6	27/78	-8.3	24/69	6.9
May	14.9	2.8	8.9	24.5	10/67	-7.5	30/76	-10.4	26/69	5.6
June	12.0	0.8	6.4	20.1	3/57	-8.5	8/57	-13.4	25/71	4.8
July	11.1	-0.3	5.4	19.7	29/75	-10.0	11/71	-15.1	11/71	5.1
August	12.6	0.8	6.7	21.7	24/54	-7.8	6/74	-12.8	11/69	6.1
September	15.8	2.7	9.3	28.6	26/65	-5.6	5/40	-10.6	12/71	7.4
October	19.0	5.8	12.4	32.7	13/46	-3.3	4/57	-6.2	4/57	7.9
November	22.2	8.2	15.1	38.8	19/44	-1.8	28/67	-6.3	28/67	8.7
December	26.0	11.1	18.6	38.8	21/53	1.1	18/64	-3.9	18/64	9.1
Year { Averages	19.3	6.2	12.7	..	..	..	..	..	..	7.2
Extremes	..	..	..	42.2	-10.0	..	..	-15.1	..	..
				1/2/68	11/7/71			11/7/71		

(a) Recorded at Forestry and Timber Bureau, Yarralumla. (b) 30/58 and 24/67.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pres- sure mean 9 a.m. (mb)	Rainfall (millimetres)							Fog mean No. days
	Rel. hum (%) at 9 a.m.			Mean No. of days of rain	Greatest monthly			Greatest in one day	
	Mean	Highest mean	Lowest mean		Mean mthly	Greatest monthly	Least monthly		
No. of years of record	36(a)	36	36	36	36	40	40	39	36
January	13.1	60	75	42	61	8 164 1941	1 1947	95 12/45	1.1
February	14.0	65	81	53	59	7 148 1977	Nil 1968	69 20/74	1.2
March	13.1	69	81	53	51	7 312 1950	1 1954	66 5/59	1.28
April	10.7	75	84	38	50	8 164 1974	1 1980	75 2/59	4.1
May	8.7	84	96	73	51	9 150 1953	1 1976	96 3/48	7.5
June	7.1	85	97	73	39	9 126 1956	4 1979	45 25/56	7.6
July	6.6	84	93	68	38	10 103 1960	4 1970	35 10/57	7.7
August	7.1	80	92	58	47	12 156 1974	7 1944	48 29/74	5.0
September	8.1	74	82	55	50	10 151 1978	6 1946	41 16/62	4.1
October	10.0	67	82	50	73	12 161 1976	2 1977	105 21/59	3.1
November	10.7	59	76	38	64	10 135 1961	4 1977	64 9/50	1.4
December	12.3	59	74	43	56	8 215 1947	Nil 1967	87 30/48	0.6
Year { Totals	..	..	..	..	639	110	..	..	46.2
Year { Averages	9.3	72	..	..	..	..	..	..	..
Year { Extremes	..	..	97	38	..	312	3/50	Nil (a)	105
								21/10/59	

(a) 12/67 and 2/68.

Data shown in the above tables relate to the Meteorological Office, R.A.A.F., Fairbairn, except where otherwise indicated, and generally cover years up to 1980.

Figures such as 24/33, 31/68, etc., indicate, in respect of the month of reference, the day and year of the occurrence.

CLIMATIC DATA: MELBOURNE, VICTORIA

(Lat. 37° 49' S., Long. 144° 58' E. Height above M.S.L. 35 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 28 metres)					Mean amt evapora- tion (mm)	No. days thun- der	Mean daily amt clouds	
		Average (km/h)	Highest mean speed in one day (km/h)	High- est gust speed (km/h)	Prevailing direction				9 a.m., 3 p.m., 9 p.m. (a)	No. clear days
					9 a.m.	3 p.m.				
No. of years of record	119	36(b)	66	69	57	57	9(c)	68	119	68
January	1,012.8	12.8	34.0	27/41	106	S	S	228	1.7	4.1
February	1,014.3	12.4	30.6	13/47	119	S	S	198	1.9	4.0
March	1,016.8	11.3	29.0	3/61	106	N	S	155	1.3	4.3
April	1,018.9	10.9	33.7	27/71	108	N	S	97	0.7	4.7
May	1,019.1	11.4	33.0	4/61	116	N	N	59	0.4	5.2
June	1,019.0	11.4	36.7	16/47	103	N	N	38	0.2	5.3
July	1,018.6	12.8	36.9	24/70	109	N	N	47	0.2	5.2
August	1,017.5	12.5	34.3	20/42	108	N	N	60	0.6	5.0
September	1,016.0	12.7	34.0	15/64	111	N	S	91	0.8	4.8
October	1,014.7	12.8	30.4	6/68	111	N	S	130	1.6	4.8
November	1,013.9	13.3	35.8	8/71	114	SW	S	161	1.9	4.9
December	1,012.4	13.1	33.8	12/52	100	S	S	209	2.2	4.5
Year { Totals	1,016.2	12.3	..	..	..	..	1,468	13.4	..	48.0
Averages	..	..	..	..	..	N	S	..	..	4.7
Extremes	..	..	36.9	..	119	..	..	..	..	..
			24/7/70							

(a) Scale 0-8.

(b) Early records not comparable.

(c) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (°Celsius)		Extreme air temperature (°Celsius)			Extreme temperature (°Celsius)		Mean daily hours sun- shine
	Mean max.	Mean min.	Mean	Highest	Lowest	Highest in sun	Lowest on grass	
No. of years of record	120	120	120	123	123	86(a)	119	52(b)
January	25.8	13.9	19.9	45.6	13/39	5.6	28/85*	8.1
February	25.7	14.2	19.9	43.1	7/01	4.6	24/24	7.5
March	23.7	12.8	18.3	41.7	11/40	2.8	17/84*	6.6
April	20.1	10.5	15.3	34.9	5/38	1.6	24/88*	5.1
May	16.5	8.3	12.4	28.7	7/05	-1.2	29/16	3.9
June	13.9	6.6	10.3	22.4	2/57	-2.2	11/66	3.4
July	13.3	5.7	9.5	23.1	30/75	-2.8	21/69*	3.7
August	14.8	6.4	10.6	25.0	20/85*	-2.1	11/63*	4.6
September	17.1	7.6	12.4	31.4	28/28	-0.6	3/40	5.5
October	19.5	9.2	14.4	36.9	24/14	0.1	3/71*	5.9
November	21.8	10.8	16.3	40.9	27/94*	2.4	2/96*	6.5
December	24.1	12.6	18.4	43.7	15/76	4.4	4/70*	7.3
Year { Averages	19.9	9.9	14.8	..	..	..	..	5.7
Extremes	..	..	..	45.6	-2.8	81.4	-6.7	..
				13/1/39	21/7/69	14/1/62	30/6/29	

(a) Discontinued 1946.

(b) Discontinued 1967.

(c) 17/1884 and 20/1897.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pres- sure mean 9 a.m. (mb)	Rainfall (millimetres)							Fog mean no. days				
		Rel. hum. (%) at 9 a.m.			Mean no. of days of rain	Greatest monthly	Least monthly	Greatest in one day					
		Mean	Highest mean	Lowest mean									
No. of years of record	68	68	71	71	120	120	123	123	122	118			
January	13.1	61	68	50	48	8	176	1963	(a)	1932	108	29/63	0.1
February	14.1	63	77	48	50	7	238	1972	(a)	1965	87	26/46	0.3
March	13.3	66	79	50	54	9	191	1911	4	1934	90	5/19	0.7
April	11.7	72	82	66	59	11	195	1960	Nil	1923	80	23/60	1.8
May	10.3	79	88	69	57	14	142	1942	4	1934	51	15/74	3.6
June	9.3	83	92	73	50	14	115	1859	8	1858	43	21/04	4.6
July	8.9	81	87	73	49	15	178	1891	15	1902	74	12/91	4.3
August	9.1	75	82	64	50	15	111	1939	12	1903	54	17/81	2.3
September	9.5	68	76	60	59	14	201	1916	13	1907	59	23/16	0.8
October	10.5	63	72	52	68	14	193	1869	7	1914	61	21/53	0.4
November	11.3	61	73	52	59	12	206	1954	6	1895	73	21/54	0.2
December	12.5	60	72	48	58	10	182	1863	1	1972	100	4/54	0.2
Year { Totals	..	..	..	..	661	143	..	..	..	..	..	..	19.3
Averages	11.1	69	..	..	..	..	..	..	..	..	..	..	..
Extremes	..	..	92	43	..	..	238	2/72	Nil	4/23	108	..	..
													29/1/63

(a) Less than 1 mm.

Figures such as 27/41, 28/85, etc., indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk (*) relate to nineteenth century.

CLIMATIC DATA: HOBART, TASMANIA

(Lat. 42° 53' S., Long. 147° 20' E. Height above M.S.L. 54 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 12 metres)						Mean amt evapora- tion (mm)	No. days thun- der	Mean daily amt clouds	
		Average (km/h)	Highest mean speed in one day (km/h)	High- est gust speed (km/h)	Prevailing direction		9 a.m., 9 p.m. (a)			No. of clear days	
					9 a.m.	3 p.m.					
No. of years of record	90	63	69	94	30(b)	30(b)	10(c)	64	90	30(b)	
January	1,010.6	12.6	33.5	30/16	130	NNW	SSE	167	1.0	5.0	
February	1,012.9	11.5	40.6	4/27	121	NNW	SSE	135	1.0	4.9	
March	1,014.3	11.0	34.4	13/38	127	NW	SSE	109	0.7	4.8	
April	1,015.5	10.9	38.8	9/52	141	NW	W	70	0.3	5.0	
May	1,015.4	10.4	35.4	21/65	135	NNW	NW	38	0.0	5.0	
June	1,015.2	10.2	38.2	27/20	132	NW	NW	22	0.0	5.0	
July	1,014.0	10.7	36.9	22/53	129	NNW	NNW	26	0.0	4.8	
August	1,012.8	10.9	41.0	19/26	140	NNW	NW	44	0.1	4.8	
September	1,011.4	12.5	43.0	28/65	150	NNW	NW	73	0.1	4.9	
October	1,010.3	12.6	32.4	3/65	140	NNW	SW	107	0.4	5.2	
November	1,009.8	12.8	34.1	18/15	135	NNW	S	123	0.6	5.3	
December	1,009.4	12.4	37.7	1/34	122	NNW	SSE	150	0.8	5.3	
Year { Totals	..	..	..	..	..	..	1,064	5.1	..	22.1
Year { Averages	1,012.6	11.5	..	..	..	NNW	W	..	..	5.0
Year { Extremes	..	..	43.0	..	150	..	..	..	..	..
			28/9/65								

(a) Scale 0-8.

(b) Standard thirty years normal (1911-1940).

(c) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (°Celsius)			Extreme air temperature (°Celsius)			Extreme temperature (°Celsius)		Mean daily hours sun- shine
	Mean max.	Mean min.	Mean	Highest	Lowest	Highest in sun	Lowest on grass		
No. of years of record	92	92	92	96	96	57(a)	92	79	
January	21.4	11.5	16.5	40.8	4/76	71.1	19/97*	7.9	
February	21.5	11.8	16.7	40.2	12/99*	73.9	24/68*	7.0	
March	20.0	10.6	15.3	37.3	13/40	66.1	26/44	6.4	
April	17.1	8.7	12.9	30.6	1/41	61.1	18/93*	5.0	
May	14.2	6.7	10.5	25.5	5/21	53.3	(d)	4.3	
June	11.8	5.1	8.5	20.6	1/07	50.0	12/94*	3.9	
July	11.4	4.4	7.9	21.0	30/75	49.4	12/93*	4.3	
August	12.8	5.0	8.9	24.5	26/77	54.4	—/87*	5.0	
September	14.9	6.2	10.6	28.2	29/73	58.9	23/93*	5.9	
October	16.7	7.5	12.1	33.4	24/14	68.9	9/93*	6.3	
November	18.5	9.0	13.8	36.8	26/37	55.6	19/92*	7.0	
December	20.2	10.5	15.4	40.7	30/97*	71.9	10/39	7.2	
Year { Averages	16.7	8.1	12.4	..	..	..	..	5.9
Year { Extremes	..	..	..	40.8	-2.8	73.9	-7.7	..
				4/1/1976	25/6/72	24/2/1868	24/6/1963		

(a) Period 1934-1938 not comparable; records discontinued 1946.
13/1905.

(d) —/1899 and —/1893.

(e) 1/1886 and 1/1899.

(b) 09/1937 and 11/1937.
(f) 11/1895 and 7/1973.(c) 05/1886 and
13/1905.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pres- sure mean 9 a.m. (mb)	Rel. hum. (%) at 9 a.m.			Rainfall (millimetres)				Fog mean No. days
		Mean	Highest mean	Lowest mean	Mean No. of days of rain	Greatest monthly	Least monthly	Greatest in one day	
No. of years of record	77(a)	81	86	86	93	93	97	97(f)	64
January	11.0	58	81	45	49	11	150	1893	0.30/16
February	11.7	62	83	49	42	10	171	1964	56 1/54
March	11.0	65	78	52	47	11	255	1946	88 17/46
April	10.0	70	84	57	55	12	248	1960	133 23/60
May	8.8	75	86	61	49	14	214	1958	47 3/73
June	7.9	78	91	61	59	14	238	1954	147 7/54
July	7.6	78	87	72	54	15	157	1974	64 18/22
August	7.9	73	86	59	49	16	161	1946	8 2/76
September	8.3	66	81	52	52	15	201	1957	10 15/57
October	9.1	62	74	52	64	17	193	1947	10 19/14
November	9.6	59	73	49	56	14	188	1885	9 (d) 30/85*
December	10.6	58	73	42	57	13	196	(b)	5 (e) 85 5/41
Year { Totals	..	..	..	..	633	162	..	..	..
Year { Averages	9.5	67	..	..	..	..	..	..	..
Year { Extremes	..	..	91	42	..	..	255	2	156
							3/1946	(c)	15/9/57

(a) 1894-1970.

(b) 1897 and 1916.

(c) 4/1904 and 6/1979.

(d) 1919 and 1921.

(e) 1897, 1915 and 1931.

(f) Includes

earlier records at Botanical Gardens.

Figures such as 30/16, 12/99, etc. indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk (*) relate to nineteenth century.

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CHAPTER 3

GENERAL GOVERNMENT

Parliamentary government

Scheme of parliamentary government

Under section 1 of the Australian Constitution the legislative power of the Commonwealth of Australia is vested in the Parliament of the Commonwealth, which consists of the Sovereign, the Senate, and the House of Representatives. The Sovereign is represented throughout the Commonwealth by the Governor-General who, subject to the Constitution, has such powers and functions as the Sovereign is pleased to assign to him. In each Australian State there is a State Governor, who is the representative of the Sovereign for the State. The Governor has such powers within the State as are conferred upon him by the Letters Patent constituting his office, and he exercises these powers in accordance with instructions issued to him by the Sovereign, detailing the manner in which his duties are to be fulfilled.

In the Commonwealth Parliament the Upper House is known as the Senate, and in the bicameral State Parliaments as the Legislative Council. The Legislature in each State was bicameral until 1922 when the Queensland Parliament became unicameral upon the abolition of the Upper House. In the Commonwealth Parliament the Lower House is known as the House of Representatives; in the State Parliaments of New South Wales, Victoria, Queensland and Western Australia as the Legislative Assembly; and in the State Parliaments of South Australia and Tasmania as the House of Assembly. The extent of the legislative powers of each of the seven Parliaments is defined by the Australian and State Constitutions respectively. In those States that have a bicameral legislature the Legislative Assembly or House of Assembly is the larger House.

The members of the Legislative Assembly or House of Assembly, as the case may be, of each State are elected by the people, the franchise extending to British subjects who are at least 18 years of age and possess certain residential qualifications. With the exception of the New South Wales Legislative Council, the members of State Legislative Councils are, in common with members of the Lower Houses, elected by the people of the respective States. Up until 1978 in New South Wales a quarter of the members of the Legislative Council retired each three years, and the continuing members of the Council and the members of the Legislative Assembly, voting as an electoral body, elected members to fill the vacant positions. However, as from 1978 in New South Wales, as well as in all other States possessing a Legislative Council, members of the Council are now elected by adult suffrage. In the Commonwealth Parliament the qualifications for the franchise are identical for both Houses, extending to British subjects who have lived in Australia for six months continuously and who are not less than 18 years of age.

The Sovereign

On 7 February 1952, the then Governor-General of the Commonwealth of Australia and members of the Federal Executive Council proclaimed Princess Elizabeth Queen Elizabeth the Second, Queen of this Realm and of all Her other Realms and Territories, Head of the Commonwealth, Defender of the Faith, Supreme Liege Lady in and over the Commonwealth of Australia. The coronation of Her Majesty took place in Westminster Abbey on 2 June 1953. By the *Royal Style and Titles Act 1973*, which Her Majesty assented to in Canberra on 19 October 1973, the Parliament of the Commonwealth assented to the adoption by Her Majesty, for use in relation to Australia and its Territories, of the Style and Titles set forth in the Schedule to the Act. On the same day, also in Canberra, Her Majesty issued a Proclamation, under the Great Seal of Australia, appointing and declaring that Her Majesty's Style and Titles should henceforth be, in relation to Australia and its Territories, 'Elizabeth the Second, by the Grace of God Queen of Australia and Her other Realms and Territories, Head of the Commonwealth'.

The Governor-General

Powers and functions. As the Queen's representative in Australia, the Governor-General of the Commonwealth of Australia exercises certain prerogative powers and functions assigned to him by the Queen. Other powers and functions are conferred on him by the Australian Constitution. Powers

which have been so assigned or conferred include, among others, the power to grant pardons and to remit fines for offences against the laws of the Commonwealth of Australia; to appoint certain officers in the Diplomatic or Consular Service; to appoint times for holding the sessions of the Parliament, prorogue Parliament, and dissolve the House of Representatives; to cause writs to be issued for general elections of members of the House of Representatives; to assent in the Queen's name to a proposed law passed by both Houses of the Parliament or to withhold such assent, or to reserve the law for the Queen's pleasure, or to return the proposed law to the House in which it originated and transmit therewith any amendments which he may recommend; to exercise executive power; to choose and summon Executive Councillors, who hold office during his pleasure; and to appoint Ministers of State for the Commonwealth of Australia. In addition, the command-in-chief of the Defence Force of the Commonwealth of Australia is vested in the Governor-General as the Queen's representative.

Many Acts of the Commonwealth Parliament provide that the Governor-General may make regulations to give effect to the Act. The Governor-General may also be authorised by statute to issue proclamations—for example, to declare an Act in force. He has been given power by statute to legislate for certain of the Australian Territories. Under the conventions of responsible government obtaining in British Commonwealth countries, the Governor-General's functions are exercised generally on the advice of Ministers of State.

The present Governor-General is His Excellency Sir Zelman Cowen, A.K., G.C.M.G., K.St.J., Q.C., who has held office since 8 December 1977.

Holders of office. The names of those persons who have acted as Governor-General since the inception of the Commonwealth of Australia are listed in Year Book No. 61 and earlier Year Books.

Administrators. In addition to the holders of the office of Governor-General listed above, certain persons have, from time to time, been appointed as Administrator of the Commonwealth of Australia. Administrators are appointed in the event of the death, illness or absence from Australia of the Governor-General, or for the period between the departure of a Governor-General and the arrival of his successor. The names of those persons who have acted as Administrator are also listed in Year Book No. 61 and earlier Year Books.

Governors of the States

Powers and functions. The Queen is represented in each of the Australian States by a Governor, the office having been constituted by Letters Patent issued under the Great Seal of the United Kingdom on various dates. The Governors of the States exercise prerogative powers conferred on them by these Letters Patent, their Commissions of appointment, and the Governor's Instructions given them under the Royal Sign Manual and Signet or other instrument as specified in the Letters Patent. In addition, they have been invested with various statutory functions by State Constitutions and other Imperial Acts, as well as under the Acts of the Parliaments of the States.

A Governor of a State assents in the Queen's name to Bills passed by the Parliament of the State, except those reserved for the Royal Assent. The latter include certain classes of Bills which are regulated by the State's Constitution and by the Governor's Instructions. He administers the prerogative of mercy by the reprieve or pardon of criminal offenders within his jurisdiction, and may remit fines and penalties due to the Crown. In the performance of his functions generally, particularly those conferred by statute, the Governor of a State acts on the advice of Ministers of State for the State.

Holders of office. The names of the present (October 1980) State Governors are as follows:

New South Wales—SIR ARTHUR RODEN CUTLER, V.C., K.C.M.G., K.C.V.O., C.B.E., K.St.J.

Victoria—SIR HENRY ARTHUR WINNEKE, K.C.M.G., K.C.V.O., O.B.E., K.St.J., Q.C.

Queensland—COMMODORE SIR JAMES MAXWELL RAMSAY, K.C.M.G., C.B.E., D.S.C., K.St.J.

South Australia—MR KEITH DOUGLAS SEAMAN, O.B.E., K.St.J.

Western Australia—AIR CHIEF MARSHAL SIR WALLACE HART KYLE, G.C.B., K.C.V.O., C.B.E., D.S.O., D.F.C., K.St.J.

Tasmania—THE HONOURABLE SIR STANLEY CHARLES BURBURY, K.C.V.O., K.B.E., K.St.J.

The Cabinet and executive government

Detailed information is contained in Year Book No. 62, pages 64 and 65.

Commonwealth Government Ministries

Names and tenure of office, 1901 to 1980. The following list shows the name of each Commonwealth Government Ministry to hold office since 1 January 1901 and the limits of its term of office.

COMMONWEALTH GOVERNMENT MINISTRIES, 1901 TO NOVEMBER 1980

- (i) BARTON MINISTRY, 1 January 1901 to 24 September 1903.
- (ii) DEAKIN MINISTRY, 24 September 1903 to 27 April 1904.
- (iii) WATSON MINISTRY, 27 April 1904 to 17 August 1904.
- (iv) REID-MCLEAN MINISTRY, 18 August 1904 to 5 July 1905.
- (v) DEAKIN MINISTRY, 5 July 1905 to 13 November 1908.
- (vi) FISHER MINISTRY, 13 November 1908 to 1 June 1909.
- (vii) DEAKIN MINISTRY, 2 June 1909 to 29 April 1910.
- (viii) FISHER MINISTRY, 29 April 1910 to 24 June 1913.
- (ix) COOK MINISTRY, 24 June 1913 to 17 September 1914.
- (x) FISHER MINISTRY, 17 September 1914 to 27 October 1915.
- (xi) HUGHES MINISTRY, 27 October 1915 to 14 November 1916.
- (xii) HUGHES MINISTRY, 14 November 1916 to 17 February 1917.
- (xiii) HUGHES MINISTRY, 17 February 1917 to 10 January 1918.
- (xiv) HUGHES MINISTRY, 10 January 1918 to 9 February 1923.
- (xv) BRUCE-PAGE MINISTRY, 9 February 1923 to 22 October 1929.
- (xvi) SCULLIN MINISTRY, 22 October 1929 to 6 January 1932.
- (xvii) LYONS MINISTRY, 6 January 1932 to 7 November 1938.
- (xviii) LYONS MINISTRY, 7 November 1938 to 7 April 1939.
- (xix) PAGE MINISTRY, 7 April 1939 to 26 April 1939.
- (xx) MENZIES MINISTRY, 26 April 1939 to 14 March 1940.
- (xxi) MENZIES MINISTRY, 14 March 1940 to 28 October 1940.
- (xxii) MENZIES MINISTRY, 28 October 1940 to 29 August 1941.
- (xxiii) FADDEN MINISTRY, 29 August 1941 to 7 October 1941.
- (xxiv) CURTIN MINISTRY, 7 October 1941 to 21 September 1943.
- (xxv) CURTIN MINISTRY, 21 September 1943 to 6 July 1945.
- (xxvi) FORDE MINISTRY, 6 July 1945 to 13 July 1945.
- (xxvii) CHIFLEY MINISTRY, 13 July 1945 to 1 November 1946.
- (xxviii) CHIFLEY MINISTRY, 1 November 1946 to 19 December 1949.
- (xxix) MENZIES MINISTRY, 19 December 1949 to 11 May 1951.
- (xxx) MENZIES MINISTRY, 11 May 1951 to 11 January 1956.
- (xxxi) MENZIES MINISTRY, 11 January 1956 to 10 December 1958.
- (xxxii) MENZIES MINISTRY, 10 December 1958 to 18 December 1963.
- (xxxiii) MENZIES MINISTRY, 18 December 1963 to 26 January 1966.
- (xxxiv) HOLT MINISTRY, 26 January 1966 to 14 December 1966.
- (xxxv) HOLT MINISTRY, 14 December 1966 to 19 December 1967.
- (xxxvi) MCEWEN MINISTRY, 19 December 1967 to 10 January 1968.
- (xxxvii) GORTON MINISTRY, 10 January 1968 to 28 February 1968.
- (xxxviii) GORTON MINISTRY, 28 February 1968 to 12 November 1969.
- (xxxix) GORTON MINISTRY, 12 November 1969 to 10 March 1971.
- (xl) MCMAHON MINISTRY, 10 March 1971 to 5 December 1972.
- (xli) WHITLAM MINISTRY, 5 December 1972 to 19 December 1972.
- (xlii) WHITLAM MINISTRY, 19 December 1972 to 11 November 1975.
- (xliii) FRASER MINISTRY, 11 November 1975 to 22 December 1975.
- (xliv) FRASER MINISTRY, 22 December 1975 to 20 December 1977.
- (xlv) FRASER MINISTRY, 20 December 1977 to 3 November 1980.
- (xlvi) FRASER MINISTRY, 3 November 1980.

Names of Members of each Ministry to 3 November 1980. In Year Book No. 17, 1924, the names are given of each Ministry up to the Bruce-Page Ministry (9 February 1923 to 22 October 1929), together with the names of the successive holders of portfolios therein. Year Book No. 39 contains a list which covers the period between 9 February 1923, the date on which the Bruce-Page Ministry assumed power, and 31 July 1951, showing the names of all persons who held office in each Ministry during that period. The names of members of subsequent Ministries are listed in successive issues of the Year Book from No. 39 to No. 61 inclusive and in No. 64.

This issue only shows particulars of the Fourth Fraser Ministry (at 3 November 1980).

COMMONWEALTH AND STATE LEADERS OF THE GOVERNMENT, SEPTEMBER 1980

Commonwealth—The Rt Hon. J. M. Fraser, C.H., M.P. (Vic.) (L.P.)

New South Wales—The Hon. N. K. Wran, Q.C., M.P. (A.L.P.)

Victoria—The Hon. R. J. Hamer, E.D., M.P. (L.P.)

Queensland—The Hon. J. Bjelke-Petersen, M.L.A. (N.P.)

South Australia—The Hon. D. O. Tonkin, M.P. (L.P.)

Western Australia—The Hon. Sir Charles Court, K.C.M.G. O.B.E., M.L.A. (L.P.)

Tasmania—The Hon. D. A. Lowe, M.H.A. (A.L.P.)

Northern Territory—The Hon. P. A. E. Everingham, M.L.A. (L.P.)

THE FOURTH FRASER MINISTRY—AT 3 NOVEMBER 1980

(The State in which each Minister's electorate is situated and party affiliation are shown in parenthesis. Party affiliation is indicated by the use of the following abbreviations; L.P. Liberal Party of Australia; N.C.P. National Country Party of Australia).

**Prime Minister—*

THE RIGHT HON. MALCOLM FRASER, C.H.,
M.P. (Vic.) (L.P.)

**Deputy Prime Minister, Minister for Trade and Resources—*

THE RT HON. J. D. ANTHONY, M.P.
(N.S.W.) (N.C.P.)

**Minister for Industry and Commerce—*

THE RT HON. PHILLIP LYNCH, M.P. (Vic.)
(L.P.)

**Minister for Communications and Leader of the House—*

THE RT HON. IAN SINCLAIR, M.P. (N.S.W.)
(N.C.P.)

**Minister for National Development and Energy, Vice-President of the Executive Council and Leader of the Government in the Senate—*

SENATOR THE HON. J. L. CARRICK (N.S.W.)
(L.P.)

**Minister for Foreign Affairs—*

THE HON. A. A. STREET, M.P. (Vic.) (L.P.)

**Minister for Primary Industry—*

THE HON. P. J. NIXON, M.P. (Vic.) (N.C.P.)

**Treasurer—*

THE HON. JOHN HOWARD, M.P. (N.S.W.)
(L.P.)

**Minister for Industrial Relations—*

THE HON. ANDREW PEACOCK, M.P. (Vic.)
(L.P.)

**Minister for Defence—*

THE HON. D. J. KILLEN, M.P. (Qld) (L.P.)

**Minister for Finance—*

SENATOR THE HON. DAME MARGARET
GUILFOYLE, D.B.E. (Vic.) (L.P.)

**Minister for Employment and Youth Affairs and Minister Assisting the Prime Minister—*

THE HON. IAN VINER, M.P. (W.A.) (L.P.)

**Attorney-General*

SENATOR THE HON. PETER DURACK, Q.C.
(W.A.) (L.P.)

**Minister for Social Security—*

SENATOR THE HON. F. M. CHANEY (W.A.)
(L.P.)

Minister for Home Affairs and Environment—

THE HON. R. J. ELLICOTT, Q.C., M.P.
(N.S.W.) (L.P.)

Minister for Transport—

THE HON. RALPH HUNT, M.P. (N.S.W.)
(N.C.P.)

Minister for Health—

THE HON. M. J. R. MACKELLAR, M.P.
(N.S.W.) (L.P.)

Minister for Education and Minister Assisting the Prime Minister in Federal Affairs—

THE HON. WAL FIFE, M.P. (N.S.W.) (L.P.)

Minister for Immigration and Ethnic Affairs—

THE HON. IAN MACPHEE, M.P. (Vic.) (L.P.)

Minister for Science and Technology—

THE HON. DAVID THOMSON, M.C., M.P.
(Qld) (N.C.P.)

Minister for Administrative Services and Minister Assisting the Minister for Defence—

THE HON. KEVIN NEWMAN, M.P. (Tas.)
(L.P.)

Minister for Business and Consumer Affairs—

THE HON. J. C. MOORE, M.P. (Qld) (L.P.)

Minister for the Capital Territory and Minister Assisting the Minister for Industry and Commerce—

THE HON. MICHAEL HODGMAN, M.P. (Tas.)
(L.P.)

Minister for Veterans' Affairs and Minister Assisting the Treasurer—

SENATOR THE HON. A. J. MESSNER (S.A.) (L.P.)

Minister for Aboriginal Affairs and Minister Assisting the Minister for National Development and Energy—

SENATOR THE HON. PETER BAUME (N.S.W.) (L.P.)

Minister for Housing and Construction and Minister Assisting the Minister for Trade and Resources—

THE HON. D. T. MCVEIGH, M.P. (Qld) (N.C.P.)

*Minister in the Cabinet.

COMMONWEALTH AND STATE LEADERS OF THE OPPOSITION, SEPTEMBER 1980†

The Leader of the Opposition plays an important part in the Party system of government which operates in the Australian Parliaments. The following list gives the names of the holders of this position in each of the Parliaments in September 1980.

Commonwealth—The Hon. W. G. Hayden, M.P. (A.L.P.)

New South Wales—J. M. Mason, M.P. (L.P.)

Victoria—F. N. Wilkes, M.P. (A.L.P.)

Queensland—E. D. Casey, M.L.A. (A.L.P.)

South Australia—J. C. Bannon, M.P. (A.L.P.)

Western Australia—The Hon. R. Davies, M.L.A. (A.L.P.)

Tasmania—G. A. Pearsall, M.H.A. (L.P.)

Northern Territory—The Hon. J. M. Isaacs, M.L.A. (A.L.P.)

Numbers and salaries of Commonwealth Government Ministers

Under sections 65 and 66, respectively, of the Constitution of the Commonwealth of Australia the number of Ministers of State was not to exceed seven, and the annual sum payable for their salaries was not to exceed £ 12,000 (\$24,000), each provision to operate, however, 'until the Parliament otherwise provides'.

Subsequently the number and salaries have been increased from time to time, and at September 1980 the number of Ministers is twenty-six and ministerial salaries range from \$12,271 for a Minister not in Cabinet to \$33,015 for the Prime Minister. An additional ministerial allowance of \$15,655 a year is payable to the Prime Minister, \$9,133 a year to the Deputy Prime Minister, \$7,828 a year to the Treasurer, the Leader of the House and the Leader of the Government in the Senate, and \$6,523 a year to other Ministers.

All amounts payable in the foregoing paragraphs are in addition to amounts payable as Parliamentary allowances (*see* page 54).

Parliaments and elections

The Commonwealth Parliaments

The first Parliament of the Commonwealth of Australia was convened by proclamation dated 29 April 1901 by His Excellency the Marquis of Linlithgow, then Earl of Hopetoun, Governor-General. It was opened on 9 May 1901 by H.R.H. the Duke of Cornwall and York. The Rt Hon. Sir Edmund Barton, G.C.M.G., K.C., was Prime Minister.

The following table shows the number and duration of Parliaments since federation.

† Party affiliation is indicated by the use of the following abbreviations: A.L.P.—Australian Labor Party; N.P.—National Party; L.P.—Liberal Party of Australia; N.C.P.—National Country Party of Australia.

COMMONWEALTH PARLIAMENTS

<i>Number of Parliament</i>	<i>Date of opening</i>	<i>Date of dissolution</i>
First	9 May 1901	23 November 1903
Second	2 March 1904	5 November 1906
Third	20 February 1907	19 February 1910
Fourth	1 July 1910	23 April 1913
Fifth	9 July 1913	30 July 1914 (a)
Sixth	8 October 1914	26 March 1917
Seventh	14 June 1917	3 November 1919
Eighth	26 February 1920	6 November 1922
Ninth	28 February 1923	3 October 1925
Tenth	13 January 1926	9 October 1928
Eleventh	6 February 1929	16 September 1929
Twelfth	20 November 1929	27 November 1931
Thirteenth	17 February 1932	7 August 1934
Fourteenth	23 October 1934	21 September 1937
Fifteenth	30 November 1937	27 August 1940
Sixteenth	20 November 1940	7 July 1943
Seventeenth	23 September 1943	16 August 1946
Eighteenth	6 November 1946	31 October 1949
Nineteenth	22 February 1950	19 March 1951 (a)
Twentieth	12 June 1951	21 April 1954
Twenty-first	4 August 1954	4 November 1955
Twenty-second	15 February 1956	14 October 1958
Twenty-third	17 February 1959	2 November 1961
Twenty-fourth	20 February 1962	1 November 1963
Twenty-fifth	25 February 1964	31 October 1966
Twenty-sixth	21 February 1967	29 September 1969
Twenty-seventh	25 November 1969	2 November 1972
Twenty-eighth	27 February 1973	11 April 1974 (a)
Twenty-ninth	9 July 1974	11 November 1975 (a)
Thirtieth	17 February 1976	8 November 1977
Thirty-first	21 February 1978	19 September 1980
Thirty-second	25 November 1980	

(a) A dissolution of both the Senate and the House of Representatives was granted by the Governor-General under section 57 of the Constitution.

The thirty-first Parliament opened on 21 February 1978 and ended on 19 September 1980 when the House of Representatives was dissolved. Elections for the House of Representatives, Senators for the Australian Capital Territory and the Northern Territory, and Senators whose term expired on 30 June 1981 were held on 18 October 1980. Writs were issued by the Governor-General on 19 September 1980 for the House of Representatives elections in all States and Territories, and for the Senate elections in the Australian Capital Territory and Northern Territory. Writs for the Senate elections in the respective States were issued on the same date by the State Governors. For voting figures *see* page 52. For particulars of electors enrolled and of electors who voted in the several States and Territories at previous Commonwealth elections *see* Year Book No. 61 and earlier issues.

Qualifications for membership and for franchise—Commonwealth Parliament

Qualifications necessary for membership of either House of the Commonwealth Parliament are possessed by any British subject, eighteen years of age or over and not disentitled on other grounds, who has resided in Australia for at least three years and who is, or is qualified to become, an elector of the Commonwealth Parliament. Qualifications for Commonwealth Parliament franchise are possessed by any British subject, not under eighteen years of age and not disentitled on other grounds, who has lived in Australia for six months continuously. Residence in a Subdivision for a period of one month prior to enrolment is necessary to enable a qualified person to enrol. Enrolment and voting are compulsory except that the compulsory enrolment provisions do not relate to an Aboriginal native of Australia. A member of the Defence Force on service outside Australia who is not less than eighteen years of age, is a British subject and has lived in Australia for six months continuously is entitled to vote at Commonwealth Parliament elections even though he may not be enrolled.

The principal reasons for disqualification of persons otherwise eligible for election as members of either Commonwealth House are: membership of the other House, allegiance to a foreign power, being attainted of treason, being convicted and under sentence for any offence punishable by imprisonment for one year or longer, being an undischarged bankrupt or insolvent, holding an office of profit under the Crown (with certain exceptions), or having pecuniary interest in any agreement with the public

service of the Commonwealth Government except as a member of an incorporated company of more than twenty-five persons. Persons of unsound mind, attainted of treason, convicted and under sentence for any offence punishable by imprisonment for one year or longer, or persons who are holders of temporary entry permits under the *Migration Act* 1958 or are prohibited immigrants under that Act are excluded from the franchise. In the main, these or similar grounds for disqualification apply also to State Parliament membership and franchise. Aborigines are entitled to enrol and to vote at both Commonwealth and State elections in all States.

Commonwealth Parliaments and elections

From the establishment of the Commonwealth of Australia until 1949 the Senate consisted of thirty-six members, six being returned by each of the original federating States. The Constitution empowers Parliament to increase or decrease the size of the Parliament, and, as the population of Australia had more than doubled since its inception, the Parliament passed the *Representation Act* 1948 which provided that there should be ten Senators from each State instead of six, thus increasing the total to sixty Senators, enlarging both Houses of Parliament and providing a representation ratio nearer to the proportion which existed at Federation.

The *Senate (Representation of Territories) Act* 1973 made provision for two Senators to be elected from both the Northern Territory and the Australian Capital Territory. Elections for the Territory Senators are held at the same time as general elections for the House of Representatives.

In accordance with the Constitution, the total number of State Members of the House of Representatives must be as nearly as practicable twice the number of State Senators. Consequent upon the increase in the size of the Senate in 1949, the number of State Members was increased from 74 to 121. In 1955 there were 122 State Members; in 1969, 123; in 1974, 124; in 1977, 121; in 1980, 122.

Redistribution of the States into electoral divisions have taken place in 1949, 1955, 1968, 1974 (Western Australia only), 1977 and 1979 (Western Australia only). The quota (or average number) of electors is the basis for electoral distribution, but the Distribution Commissioners may vary the enrolment of electorates by up to 10 per cent from the quota in order to take account of communities of interest, including economic, social and regional interests, means of communication and travel, the trend of population changes, physical features, and existing boundaries of electoral Divisions and Sub-divisions. In addition, no electorate with an area of 5000 square kilometres or more may contain a greater number of electors than any electorate less than 5000 square kilometres in area.

The Chief Australian Electoral Officer determines the representation entitlements of the States during the twelfth month of the life of each Parliament. Determinations are based on the latest population statistics as provided by the Australian Statistician. Should the representation entitlement of a State change, the preparation of a redistribution is mandatory. The representation entitlements of the States at the three most recent determinations are shown in the following table:

REPRESENTATION ENTITLEMENTS OF THE STATES

<i>State</i>	<i>1972</i>	<i>1977</i>	<i>1979</i>
New South Wales	45	43	43
Victoria	34	33	33
Queensland	18	19	19
South Australia	12	11	11
Western Australia	10	10	11
Tasmania	5	5	5
Total	124	121	122

Following the 1977 Determination, Distribution Commissioners were appointed for all States in April and the proposed redistributions were approved by Parliament in October. The proposed redistributions came into effect by force of the *Commonwealth Electoral (Redistribution) Act* 1977. The election of 10 December 1977 was conducted on the basis of the new boundaries. Following the 1979 Determination, Distribution Commissioners were appointed for Western Australia in April and the proposed redistribution was approved by Parliament in November 1979.

From 1922 to 1968 the Northern Territory was represented in a limited capacity by one member in the House of Representatives. In May 1968 the Northern Territory Representation Act was amended to give full voting rights to the Member for the Northern Territory effective from 15 May 1968, the day on which the Act received Royal Assent.

From 1948–1967 the Australian Capital Territory was represented in a limited capacity by one member in the House of Representatives. The Member for the Australian Capital Territory has had full voting rights since 21 February 1967.

Following the passing of the Australian Capital Territory (House of Representatives) Act in October 1973 a Distribution Committee was appointed to distribute the Australian Capital Territory into two electoral Divisions. On 19 March 1974, the Committee published an initial redistribution proposal. By early 1974 there was an indication that the House of Representatives would be dissolved before the Distribution Committee could complete its task. Accordingly the *Australian Capital Territory Representation (House of Representatives) Act 1974* was enacted to provide that the Territory be divided into two electoral divisions, adopting the boundaries recommended by the Distribution Committee. The 1974 and subsequent House of Representatives elections were held on those boundaries.

Members of the House of Representatives are elected for the duration of the Parliament, which is limited to three years. At elections for Senators the whole State constitutes the electorate. For the purpose of elections for the House of Representatives the State is divided into single electorates corresponding in number to the number of members to which the State is entitled. Further information regarding the Senate and the House of Representatives is given in earlier issues of the Year Book.

The *Commonwealth Electoral Act 1948*, enacted with the *Representation Act 1948* which enlarged the Commonwealth Parliament (*see* page 51), changed the system of scrutiny and counting of votes in Senate elections from the alternative vote to that of proportional representation. The method of voting for both the Senate and the House of Representatives is preferential.

Particulars of voting at Senate elections and elections for the House of Representatives up to 1975 appear in earlier issues of the Year Book. Additional information is available in the *Statistical Returns* issued by the Chief Australian Electoral Officer following each election and printed as Parliamentary Papers.

The numbers of electors and primary votes cast for the major political parties in each State and Territory at the latest election for each House of the Commonwealth Parliament were as follows:

COMMONWEALTH PARLIAMENT ELECTIONS, 18 OCTOBER 1980

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
HOUSE OF REPRESENTATIVES ELECTION									
Electors enrolled	3,183,091	2,413,273	1,355,374	849,302	749,286	273,477	55,160	135,957	9,014,920
Number of votes recorded for—									
Australian Labor Party	1,357,556	1,016,617	535,846	348,649	286,259	118,336	17,426	68,916	3,749,605
Liberal Party	1,044,191	874,395	342,154	348,981	317,636	133,144	..	48,016	3,108,517
National Country Party(a)	307,400	109,506	273,668	10,937	15,837	..	18,805	..	736,153
Australian Democrats	166,144	183,212	66,502	68,857	48,076	3,732	2,509	7,001	546,033
Democratic Labor Party	..	25,456	..	..	..	..	..	..	25,456
Progress Party	6,869	..	10,171	..	..	..	..	..	17,040
Communist Party	8,155	1,902	..	1,261	..	..	..	..	11,318
Others	38,139	22,768	24,438	5,519	13,328	1,310	4,432	1,577	111,511
Informal votes	70,742	61,920	22,435	22,491	18,821	6,967	2,231	2,752	208,359
Total votes recorded	2,999,196	2,295,776	1,275,214	806,695	699,957	263,489	45,403	128,262	8,513,992
SENATE ELECTION									
Electors enrolled	3,183,091	2,413,273	1,355,374	849,302	749,286	273,477	55,160	135,957	9,014,920
Number of votes recorded for—									
Australian Labor Party	1,215,796	877,468	445,277	300,420	244,729	86,833	16,384	63,280	3,250,187
Liberal Party: National Country Party(a)(b)	1,139,825	831,703	..	..	..	..	..	..	1,971,528
Liberal Party(b)	..	..	266,407	319,088	283,429	96,098	19,129	46,267	1,030,418
National Country Party(a)(b)	..	..	309,622	7,419	25,937	..	..	..	342,978
Australian Democrats	187,507	231,113	115,429	96,662	58,538	7,780	4,113	10,663	711,805
Democratic Labor Party	..	31,766	..	..	..	..	..	..	31,766
Progress Party	2,260	..	3,399	..	2,593	..	..	..	8,252
Others	172,470	67,666	17,196	12,747	15,278	53,127	2,452	4,494	345,430
Informal votes	281,338	256,060	117,884	70,359	69,453	19,651	3,325	3,558	821,628
Total votes recorded	2,999,196	2,295,776	1,275,214	806,695	699,957	263,489	45,403	128,262	8,513,992

(a) The National Country Party is known in the various States as follows: New South Wales, South Australia and Western Australia—National Country Party; Victoria, Queensland and Tasmania—National Party. (b) In New South Wales and Victoria the Liberal Party and the National Country Party/National Party candidates stood as one group; in Tasmania and the Australian Capital Territory only the Liberal Party stood as a group; in Queensland, South Australia and Western Australia the National Party/National Country Party and the Liberal Party each stood as separate groups; in the Northern Territory there was a Country Liberal Party group only. In the Northern Territory the Country Liberal Party (CLP) is affiliated with both the National Country Party and the Liberal Party; the CLP MHR for the Northern Territory sits with the National Country Party while the CLP Senator for the Northern Territory sits with the Liberal Party. Accordingly, CLP votes in the Northern Territory have been allocated to the National Country Party in the House and to the Liberal Party in the Senate.

The State of the parties in each House at the commencement of the thirty-second Parliament was: *Senate*—Liberal Party 30, National Country Party 5, Australian Labor Party 26, Australian Democrats 2 and Independent 1; *House of Representatives*—Liberal Party 54, National Country Party 20 and Australian Labor Party 51.

Following the retirement of those Senators whose terms expired on 30 June 1981 the state of the parties in the Senate was: Liberal Party 28, National Country Party 3, Australian Labor Party 27, Australian Democrats 5 and Independent 1.

Referendums

In accordance with section 128 of the Constitution any proposed law for the alteration of the Constitution, in addition to being passed by an absolute majority of each House of Parliament must be submitted to a referendum of the electors in each State and Territory and must be approved by a majority of the electors in a majority of the States and by a majority of all the voters who voted before it can be presented for Royal Assent.

Since 1901 thirty-six proposals have been submitted to referendums and the consent of the electors has been received in eight cases: the first in relation to the election of Senators in 1906, the second and third in respect of State Debts—one in 1910 and the other in 1928, the fourth in respect of Social Services in 1946 and the fifth in respect of Aborigines in 1967. The remaining three proposals in relation respectively to Senate casual vacancies, maximum retirement age for justices of the High Court and other Federal Courts and the right of electors in the Territories to vote in referendums for the alteration of the Constitution were approved in May 1977. In addition to referendums for alterations of the Constitution, other Commonwealth referendums have been held—two prior to Federation regarding the proposed Constitution and two regarding military service during the 1914–1918 War. For further details of referendums see Year Book No. 52, pages 66–8, Year Book No. 60, pages 90–91, and Year Book No. 62, pages 72–73.

The Parliaments of the States

This section contains summarised information; for greater detail refer to State Year Books.

Membership of State Parliaments. The following table shows the party distribution in each of the various State Parliaments at September 1980.

STATE PARLIAMENTS: MEMBERSHIP, BY PARTY AFFILIATION, SEPTEMBER 1980

Party	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.
UPPER HOUSE						
Australian Country Party (C.P.)	6	..	..	..	..	..
Australian Labor Party (A.L.P.)	23	13	..	10	9	3
Independent (Ind.)	..	..	..	..	..	16
Liberal Party of Australia (L.P.)	14	27	..	11	19	..
National Country Party (N.C.P.) (a)	..	..	..	..	3	..
National Party (N.P.)	..	..	..	..	1	..
National Party of Australia (Victoria) (N.P.A.)	..	4	..	..	..	..
Australian Democrats (A.D.)	..	..	..	1	..	..
Total	43	44	(b)	22	32	19
LOWER HOUSE						
Australian Country Party (C.P.)	17	..	..	..	..	..
Australian Labor Party (A.L.P.)	61	32	23	20	23	19
Independent (Ind.)	1	..	..	..	..	..
Independent Labor (Ind. Lab.)	..	..	..	1	..	..
Liberal Party of Australia (L.P.)	16	42	25	24	26	15
National Country Party (N.C.P.) (a)	..	..	..	1	3	..
National Party (N.P.)	..	..	34	..	3	..
National Party of Australia (Victoria) (N.P.A.)	..	7	..	..	..	..
Australian Democrats (A.D.)	..	..	..	1	..	1
Total	95	81	82	47	55	35

(a) Formerly the National Alliance Party.

(b) Upper House abolished in 1922.

For corresponding particulars for the Commonwealth Parliament, *see* page 52.

Number and salaries and allowances of members of the legislatures, Commonwealth parliaments, September 1980.

COMMONWEALTH PARLIAMENTS: MEMBERS AND ANNUAL SALARIES AND ALLOWANCES, SEPTEMBER 1980

Members in—	Cwlth.	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Total
NUMBER OF MEMBERS								
Upper House . . .	64	43	44	(a)	22	32	19	224
Lower House . . .	124	99	81	82	47	55	35	523
Total . . .	188	142	125	82	69	87	54	747
ANNUAL SALARY (b) (\$)								
Upper House . . .	30,026	14,985	29,526	(a)	25,025	26,041	25,949	
Lower House . . .	30,026	24,975	29,526	29,630	25,025	26,041	25,949	
ELECTORAL ALLOWANCES (\$)								
Upper House . . .	(c)11,500	5,159	6,785– 9,120	(a)	7,950	(d)8,310– 16,110	(d)2,854– 6,747	..
Lower House . . .	(c)11,500– 16,750(e)	(d)8,599– 13,538	(d)6,785– 9,120	(d)7,360– 18,990	(d)5,000– 18,500	(d)7,560– 15,360	(d)3,892– 9,082	..

(a) Abolished in 1922. (b) Basic rates (payable to backbenchers, etc.) only; additional rates apply for Ministers, etc. (c) Certain additional allowances are also provided for holders of parliamentary offices, etc. (d) Allowance payable depends on location of electorate and, for Victoria and Tasmania, size of electorate. A special expense allowance for members in N.S.W., ranging from \$3,190 to \$3,985 is paid to members representing country electorates. (e) A member of the House of Representatives representing an electorate of less than 5,000 square kilometres receives an electorate allowance at the rate of \$11,500 p.a.; a member representing an electorate of 5000 square kilometres or more receives an electorate allowance at the rate of \$16,750 p.a.

Outlay on parliamentary government

The table below shows, in broad groups, the expenditure incurred in the operation of the parliamentary system in Australia, comprising the Governor-General and Governors, the Ministries, the Upper and Lower Houses of Parliament, and electoral activities; *it does not attempt to cover the expenditure on Commonwealth and State administration generally*. Only broad groups are shown, but even these are not entirely comparable because of differences in accounting procedures and in the presentation of accounts. Expenditure under the head of Governor-General or Governor includes salaries of Government House staffs and maintenance of residences, official establishments, grounds, etc., and expenditure on capital works and services.

**OUTLAY ON PARLIAMENTARY GOVERNMENT, 1978–79
(\$'000)**

Expenditure group	Cwlth.	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Total
Governor-General or Governor (a) . . .	4,419	754	871	535	494	461	494	13,742
Ministry (b)		1,174	1,161	1,526	565	482	804	
Parliament—								
Upper House (c)	2,885	963	1,260	..	572	1,309	570	7,559
Lower House (c)	5,682	3,267	2,396	2,669	1,200	2,047	850	18,111
Both Houses (d)	26,820	6,947	7,228	3,807	3,366	3,630	2,273	54,071
Miscellaneous (e)	14,610	672	984	3,311	771	871	151	21,370
Total, Parliament	49,997	11,849	11,868	9,785	5,909	7,857	3,844	101,109
Electoral (f)	14,734	4,498	2,585	633	539	489	219	23,696
Royal Commissions, Select Committees, etc.	1,274	1,040	28	34	396	228	21	3,021
Grand Total	70,424	19,315	16,512	12,514	7,904	9,517	5,381	141,568

(a) Salaries and other expenses, including maintenance of house and grounds. (b) Salaries, travelling and other expenses as ministers. (c) Allowances to members (including ministers' salaries as members), travelling and other expenses. (d) Government contribution to members' superannuation funds, printing, reporting staff, library, etc. (e) Services, furniture, stores, etc. (f) Salaries, cost of elections, etc.

OUTLAY ON PARLIAMENTARY GOVERNMENT

Year	Cwth.	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Total
TOTAL (\$'000)								
1973-74	38,926	7,378	5,218	4,340	3,190	4,213	1,935	65,200
1974-75	44,113	8,047	7,194	6,332	3,895	4,865	2,461	76,907
1975-76	53,680	12,454	12,541	7,839	5,207	6,333	3,031	101,086
1976-77	60,698	14,181	12,434	7,616	5,995	7,256	4,525	112,705
1977-78	69,830	16,846	13,412	9,823	7,554	8,096	4,650	130,210
1978-79	70,424	19,315	16,512	12,514	7,904	9,517	5,381	141,568
PER HEAD OF POPULATION (\$)								
1973-74	2.89	1.53	1.43	2.16	2.60	3.82	4.86	4.83
1974-75	3.22	1.65	1.94	3.07	3.12	4.29	6.11	5.62
1975-76	3.88	2.54	3.36	3.74	4.14	5.47	7.46	7.30
1976-77	4.34	2.87	3.30	3.59	4.73	6.13	11.06	8.05
1977-78	4.93	3.38	3.53	4.56	5.89	6.69	11.28	9.19
1978-79	4.91	3.83	4.30	5.74	6.12	7.72	12.95	9.88

Commonwealth Government Departments

For current detailed information on the Acts administered, the functions and the organisation of the Departments and Agencies of the Commonwealth Government see the *Commonwealth Government Directory* 1980.

Acts of the Commonwealth Parliaments

In the Commonwealth Parliament all laws are enacted in the name of the Sovereign, the Senate, and the House of Representatives. The subjects with respect to which the Commonwealth Parliament is empowered to make laws are enumerated in the Australian Constitution. In all States, other than South Australia and Tasmania, laws are enacted in the name of the Sovereign by and with the consent of the Legislative Council (except in Queensland) and Legislative Assembly. In South Australia and Tasmania laws are enacted in the name of the Governor of the State, with the advice and consent of the Parliament in the case of South Australia, and of the Legislative Council and House of Assembly in the case of Tasmania. Generally, assent to Bills passed by the Legislatures is given by the Governor-General or State Governor acting on behalf of, and in the name of, the Sovereign. In certain special cases Bills are reserved for the Royal Assent. The Parliaments of the States are empowered generally, subject to the Australian Constitution, to make laws in and for their respective States in all cases whatsoever. Subject to certain limitations they may alter, repeal, or vary their Constitutions. Where a law of a State is inconsistent with a law of the Commonwealth Parliament, the latter law prevails and the former law is, to the extent of the inconsistency, invalid.

The enactment/history of Commonwealth Parliament legislation

The legislation passed by the Commonwealth Parliament between 1901 and 1973, and which was then still in operation, is published in a consolidated form entitled *Acts of the Parliament 1901-1973*. Since 1974, annual volumes of Acts have also been published. The consolidation contains a chronological table of Acts passed from 1901 to 1973, showing how they are affected by subsequent legislation or lapse of time, together with a table of legislation of the Commonwealth Parliament passed from 1901 to 1973 in relation to the several provisions of the Australian Constitution. Reference should be made to these for complete information.

The following figures indicate the variation over the years in the number of enactments of the Commonwealth Parliament since 1901: 17 Acts were passed in 1901, 36 in 1914, 38 in 1927, 87 in 1939, 109 in 1952, 156 in 1965, 157 in 1968, 223 in 1973, 166 in 1974, 121 in 1975, 209 in 1976, 161 in 1977, 211 in 1978 and 191 in 1979.

CHAPTER 4

DEFENCE

This chapter outlines Australia's defence policy and its defence relationships with other countries; the higher defence organisation; the functions, organisation, manning and training of the three Services; the functions and activities of the Defence Science and Technology Organization; the Natural Disasters Organisation; and the functions of defence production.

Further information on Australia's strategic environment and defence policies and programming is contained in the Government's White Paper on Australian Defence tabled in Parliament on 4 November 1976 and major supplementary statements made to the House of Representatives by the Minister for Defence, most recently on 25 March and 26 August 1980. Further factual information on the programs and activities of the Department and the Defence Force is contained in past Defence Reports and other publications issued by the Department of Defence.

Current defence policy

The primary aim of Australian defence policy is to ensure the security of Australia and its direct interests against military threat. Important and, in some cases abiding, factors in Australia's strategic situation support that objective. Nevertheless, military initiatives taken by the Soviet Union and by Vietnam during the last twelve months have increased international tension, introducing new and significant uncertainties into prospects for stability in regions both distant and nearer at hand.

High importance is attached to improving Australia's capacity to mount independently a national defence effort that would maximise the risks and costs to any aggressor. The Government also places particular stress upon supporting the United States in its essential role in deterring the Soviet Union. The alliance with the United States under ANZUS gives substantial grounds for confidence that, in the event of a fundamental threat to Australia's security US military support would be given.

Defence policy is to maintain the ability to deploy a balanced force to cope with a range of lesser situations, or to expand in time should the need arise to meet a serious emergency.

Priority in the thrust of Australian defence activity is accorded generally to areas close to Australia from which threat could be most readily projected against Australia itself or Australian territories, or the maritime resources zone and the nearer lines of communication.

The stress placed upon improving the operational self reliance of the Defence Force in Australia's own environs has regard to our own national interests and responsibilities and to the constraints imposed by resources on our ability to project power at distance. Progress towards this objective will strengthen our capacity to contribute to the support of the ANZUS alliance, no less than to national concerns.

Australia remains deeply mindful of its natural associations with the liberal democracies and with the Western strategic community. Additionally, Australia maintains its concern for the security and development of the strategic neighbourhood—South-East Asia, Papua New Guinea and the South West Pacific. High value continues to be placed on its defence links with the region.

Higher defence organisation

Legislation concerning the present organisation of the higher management of the Defence Force and the Department of Defence was passed by the Commonwealth Parliament in September 1975 and became effective on 9 February 1976. It specifically recognised that responsibility for the general control and administration of the Defence Force rests with the Minister for Defence.

The Chief of Defence Force Staff exercises command of the Defence Force through the three Service Chiefs of Staff (Navy, Army and Air) who are the professional heads and have responsibility for the management of their respective arms of the Defence Force. The Chief of Defence Force Staff is the principal military adviser to the Minister.

The Secretary, Department of Defence has the powers and functions generally prescribed for such appointments in the Australian Public Service Act, but these are qualified by the statutory authority of the Chief of Defence Force Staff and by Ministerial directives to the Secretary, enjoining responsiveness of the Public Service structure to the operational priorities of the Chiefs of Staff. The Secretary is responsible to the Minister for advice on general policy, financial policy, and on the management and utilisation of defence resources. As Permanent Head, the Secretary is responsible for the

implementation in the Department of Defence, of the provisions of the *Audit Act* 1901 and the regulations and directions issued pursuant to this Act. He is required to furnish to the Secretary of the Department of Finance information relating to, and explanations of, the receipts and expenditure of the Department and other requirements of section 50 of the Act. Central administration is divided functionally into areas concerned with manpower and financial services, strategic policy and force development, programs and budgets, management and infrastructure services, supply and support, and defence science and technology.

The Chief of Defence Force Staff and the Secretary, Department of Defence advise the Minister on matters involving their joint responsibility in respect of administration of the Defence Force. The three Service Chiefs of Staff, the Chief of Defence Force Staff and the Secretary, Department of Defence all have the right of direct access to the Minister.

Higher defence machinery

The *Council of Defence* considers and discusses matters referred to it by the Minister relating to the control and administration of the Defence Force and the respective Arms of the Defence Force. The Council is chaired by the Minister for Defence and membership includes the Minister Assisting the Minister for Defence, the Chief of Defence Force Staff, the Secretary of the Department of Defence and the Chiefs of Staff.

An extensive committee system exists to prepare advice for the Minister on defence policy, and to identify the respective Armed Services' operational requirements to meet defence objectives. It is also designed to facilitate the sound management of resources and the development of general policy. The committee system brings together the expertise of both military and civilian members in the internal policy formulating process and the proffering of advice to Government. The more important committees are described below:

The *Defence Committee*, chaired by the Secretary with the Chief of Defence Force Staff, the three Chiefs of Staff, and the Secretaries of the Departments of the Prime Minister and Cabinet, Treasury and Foreign Affairs as members. It advises the Minister on general defence policies calling for co-ordinated information and advice about strategic, military, foreign affairs and economic aspects.

The *Chiefs of Staff Committee*, chaired by the Chief of Defence Force Staff, is responsible for providing the Minister with collective professional advice on military operations; military implications of defence policy; endorsement of military plans; and other related subjects.

The *Defence Force Development Committee*, chaired by the Secretary with the Chief of Defence Force Staff and the three Chiefs of Staff as members. It is primarily concerned with the formulation of the Five Year Defence Program and with advising the Minister on related matters encompassed by it.

EXPENDITURE ON THE DEFENCE FUNCTION
(S'000)

<i>Departmental category</i>	<i>Actual Expenditure</i>					<i>Estimated Expenditure</i>
	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1980-81</i>
Department of Defence—						
Capital equipment	151,589	281,200	319,238	406,880	495,731	618,320
Defence facilities	112,437	116,837	111,596	90,828	89,706	129,553
Defence co-operation	38,951	25,369	26,952	24,600	30,045	38,740
Manpower	1,009,257	1,104,690	1,197,742	1,255,390	1,386,587	1,505,890
Other running costs	437,665	504,031	569,285	633,872	788,876	901,143
<i>Total</i>	<i>1,749,899</i>	<i>2,032,127</i>	<i>2,224,812</i>	<i>2,411,570</i>	<i>2,790,945</i>	<i>3,193,646</i>
Department of Productivity and other Departments—						
Capital equipment	10,520	7,762	6,410	10,167	14,190	19,823
Defence facilities	7,469	9,234	8,832	6,915	9,147	8,841
Manpower costs (including Remuneration Tribunal and Defence Force Retirement and Death Benefits)	110,985	127,366	145,729	167,761	185,088	213,427
Other running costs	64,384	78,167	85,246	89,870	104,512	102,526
<i>Total</i>	<i>193,358</i>	<i>222,529</i>	<i>246,217</i>	<i>274,713</i>	<i>312,937</i>	<i>344,617</i>
Total expenditure on defence function	1,943,257	2,254,656	2,471,029	2,686,283	3,103,882	3,538,264
Special provisions—						
Acquisition Boeing 707 aircraft . . . . .	..	..	..	10,201	3,395	641
Allowance for prospective wage and salary increases . . . . .	..	..	..	..	..	110,000
Total defence expenditure	1,943,257	2,254,656	2,471,029	2,696,484	3,107,277	3,648,904

Equipment for the defence force

An amount of \$509.9 million (excluding Boeing 707 aircraft) was spent on equipment of a capital nature in 1979-80. An amount of \$638.1 million is expected to be spent in 1980-81.

The major equipment items received by the Services in 1979-80 included 1 patrol craft, 3 F-111C reconnaissance modification kits, 14 Rapier low level air defence fire units, 8 Blindfire low level air defence tracking radars, Mk 48 submarine launched torpedoes, 17 fire support vehicles, 2 air traffic control surveillance radars, 400 light trucks, 6 precision approach radars, 5 submarine attack/intercept sonar systems, 3 air defence radar simulators, 41 off-pavement forklifts, 49 light duty tracked tractors and 34 fire fighting trucks.

At the February 1980 Defence Review, the Government announced a decision to re-equip the tactical fighter force with 75 new aircraft, one to be chosen from the two contending aircraft, the McDonnell Douglas F/A-18 and the General Dynamics F-16. The Government also decided to acquire a fourth FFG guided missile frigate; two Sea King helicopters for training and operational deployment with HMAS *Melbourne*; additional Mk 48 torpedoes and a Close-in Weapon System for the third FFG guided missile frigate.

New major capital equipment decisions approved in the context of the 1980-81 Budget include a flight simulator for the P-3C Orion long range maritime patrol aircraft; 18 light helicopters for the RAN and RAAF; a second underway replenishment ship; more than 2,000, 4 and 8 tonne trucks for the Army; five additional patrol boats; Thirty-six, 155 mm howitzers for the Army and design and construction in Australia of two prototype minehunter catamarans.

On 9 September 1980 the Minister for Defence announced the Government's decision to replace the aircraft carrier HMAS *Melbourne* with a purpose-designed ship to be equipped with helicopters for anti-submarine warfare, but with a potential for operating also short take-off and vertical landing (STOVL) aircraft. The Minister also announced, subject to arrangements to be concluded, particularly with the United States Government, and to satisfactory resolution of a number of problems affecting productivity in Williamstown Dockyard, the Government's intention to build two FFG-type vessels at Williamstown Dockyard, with options for the possible construction of another four at a later time.

Defence manpower

Employment

The following table indicates the range of activities and occupations in which defence military and civilian manpower are involved.

FUNCTIONAL DISTRIBUTION OF DEFENCE MANPOWER AS AT 30 JUNE 1980

<i>Function</i>	<i>Service</i>	<i>Civilian</i>	<i>Total</i>
Operational forces and direct logistic support	29,430	830	30,260
Specialist support (e.g. communications, medical services)	5,200	3,880	9,080
Stores and supply; storage and control	2,810	4,480	7,290
Dockyards, equipment production, repair and overhaul	3,175	6,690	9,865
Training	19,220	1,520	20,740
Support to reserves and cadets	1,440	100	1,540
Research and development	320	4,860	5,180
Central headquarters and administration including overseas representation	3,460	3,110	6,570
Regional commands and administration	6,265	3,850	10,115
Defence co-operation	210	—	210
Total	71,530	29,320	100,850

NOTES: Figures have been rounded.

Figures cannot be reconciled with those in previous Year Books prior to 1979, owing to changes within classifications.

Civilian figures include only full-time operatives and exclude 1,185 locally-engaged civilians overseas, persons on extended leave and part-time staff.

Permanent Defence Force

PERSONNEL STRENGTHS OF THE PERMANENT DEFENCE FORCE AS AT 30 JUNE

	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
1976	15,993	31,430	21,351	68,774
1977	16,390	31,988	21,703	70,081
1978	16,298	31,883	21,689	69,870
1979	16,582	31,813	21,803	70,198
1980	16,961	32,321	22,249	71,531
1981 (Approved Targets)	17,300	32,850	22,441	72,591

COMPOSITION OF PERMANENT DEFENCE FORCE (a)
as at 30 June 1980

	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
Male—				
Officers	2,037	4,126	3,309	9,472
Other ranks	12,707	25,157	16,484	54,348
Cadets	412	467	398	1,277
Apprentices	667	901	414	1,982
Junior recruits	171	—	—	171
Total	15,994	30,651	20,605	67,250
Female (b)—				
Officers	78	258	187	523
Other ranks	859	1,380	1,443	3,682
Cadets	30	32	14	76
Total (c)	967	1,670	1,644	4,281
Total strength	16,961	32,321	22,249	71,531

(a) Citizen Forces and Reserves on full-time duty are included in the appropriate categories. (b) Females serve in the Women's Royal Australian Naval Service, the Royal Australian Naval Nursing Service, the Women's Royal Australian Army Corps, the Royal Australian Army Nursing Corps and other Army Specialist corps. (c) Excludes female personnel on maternity leave.

Reserve Forces

Reserves comprise trained and partly trained volunteers who are available to participate in the defence of Australia and its interests in times of war or defence emergency. Royal Australian Navy and Royal Australian Air Force Reserves can be used to supplement and increase the rate of effort of the Permanent Forces. The Army Reserve consists mainly of formed units and sub-units, which, with the Regular Army, provide the basis for expansion of the Army. Government approval has been given to expand the Army Reserve (Citizen Military Forces) to 30,000 by end June 1981.

RESERVE COMPONENTS WITH TRAINING OBLIGATIONS (a)
as at 30 June

	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
1976	1,025	21,183	458	22,666
1977	970	21,641	473	23,084
1978	917	23,164	490	24,571
1979	1,037	22,978	498	24,513
1980	1,039	23,986	502	25,527

(a) Strengths exclude those members who are serving full-time in the Permanent Defence Force but include members who have not fulfilled their minimum training obligations.

Defence co-operation

In support of Australia's defence and foreign policies the Government conducts Defence Cooperation Programs with South East Asian and South Pacific countries. The programs are bilateral, geared to the needs and priorities of cooperating countries, and emphasise the transfer of skills and technology. Activities include training in Australia, joint projects, loan of Australian personnel, and combined military exercises.

Training in Australia is an important activity: in 1979-80 over 580 overseas personnel were trained in Australia by the three Services. In line with recent Government decisions to further develop defence relations with neighbouring countries this figure is expected to expand significantly in future years. This may require the development or upgrading of facilities and equipment in Australia for this purpose.

Co-operation with Papua New Guinea included the provision of Australian Loan Servicemen to PNG, combined exercises, training for PNG Servicemen in Australia, survey and engineering projects in PNG, and the provision of defence equipment. Expenditure in 1979-80 totalled \$16.2 million.

As well as the provision of training and advisory assistance, major projects undertaken with Indonesia included survey and mapping of the Moluccas, a maritime patrol project (including patrol boats and Nomad aircraft), provision of Army vehicles, and maintenance of C130 (Hercules), engines and gearboxes. Expenditure totalled \$9.6 million in 1979-80.

Assistance to Malaysia in 1979-80 amounted to \$2.9 million, mainly for training. Joint projects nearing completion include an Armed Forces Manufacturing Workshop, a Special Warfare Training Centre and a Defence Research Centre.

Programs with the Philippines, Thailand and Singapore in 1979-80 consisted mainly of training and advisory assistance but some project activities were commenced.

In 1979-80 expenditure on co-operation with South West Pacific countries increased to \$1.1 million. Activities in the South West Pacific are not confined to those states with defence forces. They include technical advisers, survey and mapping, training and equipment assistance.

Defence representation overseas

Defence representatives are accredited to Britain, Canada, France, India, Indonesia, Iran, Japan, Republic of Korea, Malaysia, Nepal, New Zealand, Pakistan, Papua New Guinea, the Philippines, Thailand and the United States of America.

Defence force activities overseas

The main areas in which Australian Defence Force elements have been deployed overseas during the year are Malaysia/Singapore and Papua New Guinea. Units have also visited Indonesia, the Philippines, Japan, New Zealand, and the United States.

Australian Defence Force elements in the Malaysia/Singapore area include:

Navy—A destroyer or destroyer escort is maintained in South-East Asian waters for much of the year;

Army—An Australian Army infantry company is maintained at Butterworth on the basis of three month detachments from Australia in a training role;

Air Force—Two squadrons of Mirage fighter aircraft are maintained at Butterworth in Malaysia, with a detachment at Tengah in Singapore.

The Defence Force continued to contribute to United Nations peace-keeping operations with Australian Army observers in Kashmir and the Middle East. From late December 1979 to February 1980 an Australian Army contingent of some 150 participated in the Cease-Fire Monitoring Force in Rhodesia prior to that country's achievement of independence as Zimbabwe.

THE DEFENCE FORCE

Royal Australian Navy

The RAN maintains and exercises a modern, well-equipped and highly-trained maritime force. The structure of this force is based primarily on the provision at sea of a balanced force group, consisting of surface warships, naval aviation and submarines.

Higher organisation

The Chief of Naval Staff has command of the RAN, subject to the overall command of the Defence Force by the Chief of Defence Force Staff. Principal staff officers to the Chief of Naval Staff are the Deputy Chief of the Naval Staff, the Chief of Operational Requirements and Plans, the Chief of Personnel, the Chief of Technical Services, and the Chief of Materiel. Other senior officers of the RAN include the Flag Officer Naval Support Command and the Flag Officer Commanding H.M. Australian Fleet.

Ships of the Royal Australian Navy

The Fleet, October 1980: *Melbourne*—aircraft carrier; *Supply*—oiler; *Stalwart*—destroyer tender; *Perth*, *Hobart*, *Brisbane*—guided missile destroyers; *Vampire*—destroyer; *Yarra*, *Parramatta*, *Stuart*, *Derwent*, *Swan*, *Torrens*—destroyer escorts; *Jervis Bay*—training ship; *Curlew*, *Snipe*—coastal minehunters; *Ibis*—coastal minesweeper; *Moresby*, *Flinders*—surveying ships; *Kimbla*—oceanographic research ship; *Otway*, *Onslow*, *Ovens*, *Otama*, *Oxley*, *Orion*—submarines; *Attack*, *Acute*, *Advance*, *Adroit*, *Ardent*, *Assail*, *Aware*, *Barbette*, *Barricade*, *Bayonet*, *Bombard*, *Buccaneer*, *Fremantle*—patrol boats; *Banks*, *Bass*—general purpose vessels; *Brunei*, *Labuan*, *Tarakan*, *Wewak*, *Betano*, *Balikpapan*—heavy landing craft.

Fleet Air Arm

The Fleet Air Arm maintains three front line squadrons for embarked operations in the carrier HMAS *Melbourne*. These squadrons currently consist of Skyhawk A-4G fighter/ground-attack aircraft, Tracker S2EG anti-submarine aircraft and Sea King Mk 50 anti-submarine helicopters. Two Wessex 31B helicopters are also carried for Search and Rescue/Utility tasks. Three training and support squadrons are based at the RAN Air Station, Nowra, New South Wales. A detachment of Tracker S2Es are also based at Darwin for surveillance duties. Other aircraft operated by the Navy are the Bell 206B/1 helicopter in the survey ship HMAS *Moresby*, Iroquois UH-1B and Wessex 31B helicopters (utility tasks, and search and rescue), HS-748, (electronic warfare role) Skyhawk TA4-G and Macchi trainers and Jindivik pilotless target aircraft.

Ship construction and repairs

There are two naval dockyards, one at Garden Island, Sydney and one at Williamstown, near Melbourne. A third yard at Cockatoo Island in Sydney harbour is operated by Vickers Cockatoo Dockyard Pty Ltd under agreement with the Australian Government. This company carries out considerable naval refitting work, particularly of submarines. In August 1979 the company was awarded a contract to construct a new replenishment ship for the RAN the keel of which was laid in August 1980.

Other current construction projects include fourteen patrol boats being built in Cairns, four guided missile frigates in the United States of America and one amphibious heavy lift ship in Newcastle, New South Wales.

Modernisation of three destroyer escorts is being undertaken by Williamstown Naval Dockyard where construction of the oceanographic ship HMAS *Cook* is nearing completion.

Training and entry

Officer Entry. The Royal Australian Naval College at Jervis Bay is the training centre for officers in the RAN. Applicants must be under twenty years of age on 1 January of the year of entry, and must meet or intend meeting during the year of entry, the matriculation standard of the University of New South Wales, with passes in English, Mathematics, Physics and/or Chemistry. Officer appointees specialise in either Seaman, Engineering, Supply and Secretarial, or Instructor branches. Selected appointees complete a full time degree course in Engineering, Science, Surveying or Art at the University of New South Wales. Engineering Officer candidates must have attained Matriculation standard with passes in English, Mathematics, Physics and Chemistry. Male and female applicants for short service are selected after completing Year 12, to age twenty-four. Entry is also available to professionally qualified persons such as doctors, teachers, engineers and lawyers.

Sailor Entry. There are a number of entry schemes available, depending upon an individual's age, educational standard and own particular interests. These include:

- *HMAS Nirimba* at Quaker's Hill, New South Wales, is the primary establishment for all RAN trade training which includes courses for apprentices aged between fifteen and seventeen-and-a-half and technical training for general entry personnel.
- *HMAS Leeuwin* at Fremantle, Western Australia, is the junior recruit training establishment for boys aged between fifteen-and-three-quarters and sixteen-and-a-half.
- *HMAS Cerberus* at Westernport, Victoria, is the main training establishment for general entry enlisted members aged between seventeen and twenty-six and direct entry tradesmen to age twenty-seven. Recruits receive twelve weeks basic training before advancing to specialist training courses.

On completion of initial training, further branch and category training is undertaken at the various schools at *HMAS Penguin*, *HMAS Watson* and *HMAS Nirimba* in Sydney, *HMAS Cerberus* in Victoria and the Naval Air Station at Nowra, New South Wales. A number of specialised training courses are conducted in the United Kingdom and the United States of America.



HMAS Fremantle undergoing speed trials in UK waters prior to delivery to RAN.

Australian Army

The Australian Army maintains a potential ability and readiness to conduct operations on land for the defence of Australia and, in co-operation with the other arms of the Australian Defence Force, shares a responsibility to deter aggression, to ensure the nation's security and to preserve its national interests.

Higher organisation

Command of the Army is the responsibility of the Chief of the General Staff, subject to the overall command of the Defence Force by the Chief of Defence Force Staff. He has for his principal staff officers the Deputy Chief of the General Staff, the Chief of Operations, the Chief of Personnel, the Chief of Logistics, the Chief of Materiel and the Chief of the Army Reserve.

The Army is organised into three commands as follows:

- *Field Force Command* which commands all field force units of the Australian Army, both Regular and Army Reserve.
- *Logistic Command* which commands the principal logistic elements of the Army.
- *Training Command* which is responsible for all individual training and commands all Army training establishments and schools with the exception of the Royal Military College, Duntroon (which is under the command of the Chief of the General Staff).

Military Districts as listed below provide administrative support for the three commands, and, in certain cases act as intermediate headquarters for them:

- *1st Military District*—the State of Queensland.
- *2nd Military District*—the State of New South Wales, less those parts included in 3rd and 4th Military Districts.
- *3rd Military District*—the State of Victoria and part of southern New South Wales.
- *4th Military District*—the State of South Australia, plus a portion of south-western New South Wales.
- *5th Military District*—the State of Western Australia.
- *6th Military District*—the State of Tasmania.
- *7th Military District*—the Northern Territory.

The military district headquarters also handle those matters in which both Commonwealth and State Governments are involved.

Training

Australian Staff College. The Australian Staff College is located at Queenscliff, Victoria. The course is held annually and is of twelve months duration. The normal intake is eighty students, twenty of whom are from overseas countries. The course is intended to train selected officers for appointments in all branches of the staff in peace and war and to prepare them to assume, after experience, command and higher staff appointments.

Royal Military College. The Royal Military College was established in 1911 at Duntroon in the Australian Capital Territory to provide trained officers for the Army. The conditions of entry are laid down in the Royal Military College Regulations. The course is either four or five years of military and academic studies depending upon the academic course undertaken. On graduation, cadets are appointed lieutenant in the Australian Regular Army.

Officer Cadet School. The Officer Cadet School was established in 1951 at Portsea, Victoria, to increase the rate at which junior regimental officers could be produced for the Australian Army. Civilians between eighteen-and-a-half and twenty-two-and-a-half years are eligible for entry. Serving soldiers are eligible for entry from eighteen-and-a-half up to twenty-seven years. Civilians accorded special entry status because of completed or part completed tertiary qualifications are eligible for entry between eighteen-and-a-half and twenty-five years. The course lasts for forty-four weeks and, on graduation, cadets are appointed second lieutenants in the Australian Regular Army.

Women's Royal Australian Army Corps School. The WRAAC School at Mosman, New South Wales, has two wings: one whose task is the training of officer cadets for the WRAAC; and one which is a basic training wing. The officer cadets are selected on the same criteria as entrants to the Officer Cadet School. The course is of forty weeks duration and, on graduation, cadets are appointed second lieutenants in the Women's Royal Australian Army Corps.

Land Warfare Centre. The Land Warfare Centre at Canungra provides training for personnel in tactics and administration and conducts sub-unit and individual training in battle skills.

Army Apprentices School. The Army Apprentices School was opened in 1948 at Balcombe, Victoria, to train youths as skilled tradesmen for the Regular Army and to provide them with a background for an Army career. The course is open to youths between the ages of fifteen and seventeen and provides training in a number of highly skilled trades.

Other Schools. Army schools have been established for the major arms and services to train officers and other ranks in the up-to-date techniques of their own arm of service, to qualify them for promotion and to produce trained instructors. Courses at Army Schools are conducted for members of both the Regular Army and Army Reserve.

Royal Australian Air Force

The function of the Royal Australian Air Force is the conduct of operations in the air for the defence of Australia and Australian interests.

Higher organisation

The Chief of the Air Staff (CAS) has command of the Royal Australian Air Force subject to the overall command of the Defence Force by the Chief of Defence Force Staff. The CAS is assisted in his decisions by an advisory committee which includes the Deputy Chief of the Air Staff, Chief of Air Force Personnel, Chief of Air Force Technical Services, Chief of Air Force Development, Chief of Air Force Materiel, Director General Supply—Air Force, Assistant Secretary Resources Planning, and other senior officers or specialists as may be directed by the CAS. The Committee has no statutory authority nor executive function and the CAS is not obliged to accept its recommendations.

The Chief of Air Staff administers and controls RAAF units in Australia through two commands: Operational Command and Support Command. Operational Command is responsible to the CAS for the command of operational units and the conduct of their operations within Australia and overseas. Operational units based at Butterworth, Malaysia, contribute to the development of the Malaysian and Singapore defence capability and provide forces for the Integrated Air Defence System. Support Command is responsible to the CAS for training of personnel, and the supply and maintenance of Service equipment.

Structural organisation

The RAAF has five operational elements, the units of which actively and directly participate in air operations. These elements are the strike/reconnaissance force, tactical fighter force, air transport force, tactical air support force and the maritime force. The strike/reconnaissance force provides a capability for offensive air operations against land and naval targets, and a long range reconnaissance capability. The tactical fighter force is responsible for air superiority, air defence and air interdiction operations, and also provides close air support to sea and land forces. The air transport force is used for routine strategic and domestic transport, and in addition has a tactical transport role. Tactical transport and close air support aircraft normally operate within a tactical air support force which is usually controlled by a joint (Air Force/Army) headquarters. Maritime forces are primarily employed in ocean surveillance, anti-submarine warfare and search and rescue. Major maritime operations are controlled by a joint (Air Force/Navy) headquarters.

The support component consists of those units and personnel which support units of the operational component. The elements are maintenance, supply, air training, ground training, administrative and the RAAF Reserve.

Aircraft

The RAAF's strike/reconnaissance force is equipped with F-111C aircraft. Canberra aircraft are used for aerial photography, survey and target towing. The air defence and ground attack squadrons are equipped with the Mirage 1110/D. Transport aircraft currently in use are Hercules C130H and C130E, Caribou, Mystere 20, HS-748, Boeing 707, and BAC-111. Three squadrons operate Iroquois helicopters and one operates the Chinook medium lift helicopter. Maritime squadrons operate Orion P-3B and P-3C aircraft. Aircraft used for aircrew initial training are the CT-4 Airtrainer, Macchi and HS-748T2.

Training

RAAF Academy. The RAAF Academy at Point Cook, Victoria is an affiliated college of the University of Melbourne. Cadets are selected principally for the General Duties Branch, and, after three years tertiary training, graduate with a Bachelor of Science degree. Graduates then complete a basic aircrew training course. Cadets selected for the Engineer Branch study the first year at the Academy and then attend the University of Sydney to graduate with a Bachelor of Aeronautical Engineering degree.

Engineer Cadet Squadron. The Engineer Cadet Scheme provides training for degree status in aeronautical, mechanical, electrical and communication engineering at the Royal Melbourne Institute of Technology and similar institutes in the Melbourne area.

Equipment Cadets. Cadets selected for Equipment Branch duties undertake a three year course at the Darling Downs Institute of Advanced Education in Queensland. They graduate with a Bachelor of Business degree.

Basic Aircrew Training. Flying training for RAAF pilots is conducted at Point Cook, Victoria, and Pearce, WA, while RAAF navigators are trained at East Sale, Victoria. Officer and military training forms part of the flying training course. Trainees receive their wings and are commissioned on graduation. The RAAF also provides pilot and observer training for the RAN and initial pilot training for the Army. Airmen, aircrew for employment as flight engineers, loadmasters and crewmen are trained in two phases: a basic aircrew course at Richmond, NSW, and flying training within the conversion training or operational squadrons.

Aircrew Operational Conversion. Conversion training to Mirage fighter aircraft and Orion Maritime aircraft is conducted by the respective conversion training squadrons. Conversions to other operational aircraft are conducted within the operational squadrons.

Officer Training. With the exception of those officers commissioned from the RAAF Academy or the flying training schools, all officers entering directly (with or without tertiary qualifications), commissioned airmen and airwomen, engineering and equipment cadets and undergraduate students undergo the Officers' Initial Training Course at the Officers' Training School, Point Cook, Victoria.

Staff College. The RAAF Staff College located at Fairbairn ACT, provides staff training and higher service education to selected officers normally of the rank of Squadron Leader. The course, which is of one year's duration, is designed to broaden the students' professional background and to prepare them for command and staff appointments of greater responsibility. A two year correspondence course covering communication skills, military studies, international affairs and management is a compulsory prerequisite for entry to this course.

Ground Training. The major ground training schools are the School of Radio at Laverton, Victoria and the School of Technical Training at Wagga, New South Wales. Both schools provide apprentice and adult trade training for technical personnel. They also provide post graduate-type training and specialist familiarisation courses on aircraft and telecommunication systems. Non-technical courses conducted at Wagga include catering, clerical, supervision and management and instructional technique.

SERVICE ESTABLISHMENTS PROVIDING EDUCATIONAL COURSES OF SIX MONTHS DURATION OR LONGER, AUSTRALIA, 1977, 1978, AND 1979

<i>Establishment</i>	<i>Students enrolled</i>			<i>New entrants during year</i>			<i>Number completing course during year</i>		
	1977	1978	1979	1977	1978	1979	1977	1978	1979
<i>Staff colleges—</i>									
Joint Services Staff College	80	82	82	80	82	82	80	82	82
Australian Staff College	80	80	80	80	80	80	80	80	80
RAAF Staff College	42	48	48	42	48	48	42	48	47
RAN Staff College	—	—	34	—	—	34	—	—	34
<i>Officer cadet training establishments—</i>									
RANC	222	264	(a)537	96	119	332	33	41	217
RMC	432	438	439	142	148	135	52	89	77
RAAFA	96	122	130	42	45	46	21	26	25
<i>Apprentice schools—</i>									
Navy	390	419	677	180	240	184	170	101	167
Army	559	563	557	252	274	254	217	218	216
<i>Air Force</i>									
Wagga Wagga	253	278	338	136	135	161	103	133	(b)42
Laverton	79	77	86	40	37	50	32	38	(b)—
<i>Other—</i>									
RAN Junior Recruit Training School	713	326	360	760	330	360	652	570	344
RAAF School of Languages	37	37	34	37	37	34	37	37	34

(a) Now includes all RAN officer training. (b) Low numbers completing the course are due to extension of the course length by an average of three months. Apprentices graduated in 1980.

Defence Science and Technology Organization

The Chief Defence Scientist heads the Defence Science and Technology Organization (DSTO) which is engaged in research, analysis, development, trials and evaluation. It consists of a central office and thirteen establishments, a small number of people in overseas posts and some in joint activities with other nations. The DSTO contains about 4,800 staff (including some 1,100 professional) who provide a degree of scientific expertise in most physical sciences and some engineering fields of relevance to defence.

The objective of DSTO is to ensure that Australia takes best advantage of modern technology in its Defence Force. The major activities are: scientific input to Defence policy formulation; solution of Service problems particularly where high technology or special features of Australian physical or military environment are involved; modification and extension of life of Service equipment; development of Australian equipment; evaluation of Service equipment and procedures by trials, exercise analysis or operational research; support to defence industry; international co-operation in defence Research and Development.

The central office of DSTO in Canberra has 3 Divisions:

Programs and Administration Division controls the management and administration of the DSTO forward planning and advises on the optimum deployment of DSTO resources; co-ordinates co-operation with overseas governments and is responsible for information services as well as career planning and assessments.

The Projects and Analytical Studies Division provides management and advice on Major Projects and co-ordinates relevant establishment activities; co-ordinates analytical studies throughout DSTO, manages special joint undertakings with other countries; fosters DSTO contacts with other national science and technology agencies and bodies.

The Service Laboratories and Trials Division plans and executes trials of Defence Force equipment; maintains a source of engineering design for development and modification of military equipment; advises on appropriate engineering and trials standards.

DSTO Establishments

DSTO laboratories are located in eastern and southern Australia. Those primarily concerned with testing and evaluating Service equipment are functionally grouped under the Services Laboratories and Trials Division. The other laboratories are headed by Chief Superintendents and responsible to the Chief Defence Scientist.

The DSTO establishments are:

- Advanced Engineering Laboratory*, Salisbury, S.A.
- Armed Forces Food Sciences Establishment*,* Scottsdale, Tas.
- Aeronautical Research Laboratories*, Fishermen's Bend, Vic.
- Central Studies Establishment*, Canberra, A.C.T.
- Engineering Development Establishment*,* Maribyrnong and Monegeetta, Vic.
- Electronics Research Laboratory*, Salisbury, S.A.
- Joint Tropical Trials Research Establishment*,* Innisfail, Qld
- Materials Research Laboratories*, Maribyrnong, Vic.
- Materials Testing Laboratory*,* Alexandria, N.S.W.
- Royal Australian Navy Research Laboratory*,* Edgecliff, N.S.W.
- Royal Australian Navy Trials and Assessing Unit*,* North Sydney, N.S.W.
- Trials Resources Laboratory*,* Salisbury, S.A.
- Weapons Systems Research Laboratory*, Salisbury, S.A.

* Responsible to Chief Defence Scientist through Controller Services Laboratories and Trials Division.

Natural Disasters Organisation

The Natural Disasters Organisation (NDO) was established in the Department of Defence in 1974, absorbing the functions of the former Directorate of Civil Defence; the latter had been in the Department of the Interior until moved to Defence in December 1972.

The organisation mitigates the effects of disasters at the request of State and territory counter disaster organisations and in conjunction with the Defence Force, Commonwealth Government Departments and other Government and non-Government organisations; and supports the development

of a core civil defence structure. The NDO and the State and Territory Emergency Service organisations constitute the core civil defence structure for Australia, but their main continuing activity in peace is related to mitigation of the effects of disasters. The States and Territories have complete responsibility for their own counter disaster organisations.

At the national level NDO is required to develop and implement contingency plans involving Commonwealth resources to cope with requests by State/Territory counter-disaster authorities during disasters, and with civil defence needs. The headquarters of NDO in Canberra, through its National Emergency Operations Centre, provides a focal point for the co-ordination of national effort where appropriate. It is through this Centre that the physical resources available from the Commonwealth are co-ordinated when assistance or support is requested by State and Territory authorities.

The NDO administers a number of programs from Commonwealth funds for the support of the Emergency Service organisations, namely: the supply of emergency type equipment (radios, rescue vehicles, first aid kits, generators, flood rescue boats, etc); reimbursement of salaries of State/Territory full time organisers at regional level; provision of training films and handbooks, and subsidies on a limited dollar-for-dollar basis to provide accommodation for the State/Territory units at local government level.

Other programs which benefit all organisations with a counter-disaster involvement, and the community at large, are: training, principally at the Australian Counter Disaster College at Macedon, Victoria; emergency broadcasting facilities; a fall out shelter survey service; and a public awareness program.

DEFENCE PRODUCTION

Defence production functions of Department of Productivity*

The defence production functions of the Department of Productivity are carried out under the *Supply and Development Act 1939* and include the following:

Planning, establishment, operation and management of facilities producing aircraft, guided missiles, small arms, ammunition, explosives, clothing and other defence goods. Acquisition, maintenance, and disposal of strategic materials, investigation and development of Australian sources of supply of defence material in conjunction with the Department of Defence.

For the performance of the above functions the Department has two production divisions—

Munitions Supply, and Aircraft, Guided Weapons and Electronics Supply—supported by the Marketing Branch and elements of Central Office and Regional technical and administrative staffs.

Munitions supply

The Munitions Supply Division is responsible for the production of munitions required by the Defence Force. Production is carried out in Government factories, which may place orders with private industry for components and materials. The factories currently in operation and their main products or services are as follows:

Ammunition Factory, Footscray, Victoria (fuses, primers, cartridge cases and small arms ammunition); Australian Government Clothing Factory, Victoria (uniforms and clothing); Albion Explosives Factory, Deer Park, Victoria (high explosives, propellant); Explosives Factory, Maribyrnong, Victoria (propellants, explosives, rocket motors); Mulwala Explosives Factory, New South Wales (propellants and chemicals); Munitions Filling Factory, St Marys, New South Wales (filling of ammunition and explosive munitions); Ordnance Factory, Bendigo, Victoria (heavy guns, mountings, large gears); Ordnance Factory, Maribyrnong, Victoria (guns, projectiles, heavy forgings, rocket motor components); and Small Arms Factory, Lithgow, New South Wales (rifles, machine guns, mortar shells and fuse components).

Aircraft, guided weapons and electronics supply

Design, production and product support both in Government factories, and in industry, of aircraft, aero-engines, other aircraft components and guided weapons is the responsibility of this Division. Planning of capacity and negotiation (in conjunction with the Department of Administrative Services) of contractual arrangements concerning aircraft modification, repair and overhaul, and for the supply of spare parts and airborne equipment for the Services, are also functions of the Division.

The following factories are operated by the Division: Government Aircraft Factories at Fishermen's Bend, Victoria, together with its final assembly workshops and test airfield at Avalon, Victoria and the Aircraft Engineering Workshop at Pooraka, South Australia.

* On 2 November 1980 the Department of Productivity was abolished and the defence production functions transferred to the Department of Industry and Commerce.

A twin turbo-propellor utility aircraft known as Nomad has been designed and developed by the Government Aircraft Factories (GAF) and the Government has approved production of 145 aircraft. A new Mark IV version of the Jindivik is being developed with costs being shared by Britain and Australia. The Ikara anti-submarine weapon system which has been fitted into 9 RAN ships has also been purchased by the British and Brazilian Navies. A commercial workload has also been maintained, a prime activity being the production of components for Boeing aircraft.

Marketing

Overseas sales orders of munitions items in 1979-80 amounted to approximately \$10.9 million, the main items sold being Firing Device Demolition to the U.S.A., RDX/T.N.T. to the U.K., explosives to Malaysia and rifles and rifle spares to the Carribean region.

Finance

The total outlay by the Department of Productivity on defence-orientated activities was \$107.0 million during 1979-80. This was in addition to a turnover of \$104.8 million by the Government Factories through their trust accounts.

Personnel

At 30 June 1980, 8,268 personnel were employed on specifically defence-orientated functions (excluding general financial and administrative management support) as follows: administration 177; aircraft production 2,437; munitions production 5,016; miscellaneous production 633; and overseas staff 5.

CHAPTER 5

INTERNATIONAL RELATIONS

The basic principles underlying the shaping and conduct of Australia's foreign policy are that Australia is an essentially Western democratic society aligned with the United States and its allies and partners; the country's prosperity is largely dependent on trade; it is remote from its founding nation, principal migration source countries, major markets and its main allies; it is a relatively rich country in a 'populous, developing and rapidly-changing region.

Initially, Britain and the Commonwealth countries were the central elements of Australia's foreign policy and activity. Later, partly as a consequence of the vital role played by the United States of America in the Pacific in the Second World War and subsequently, close relations were also developed with that country. These links, and links with Western Europe, remain important factors in Australian policy. Australia inherits its national traditions from Western European countries, conducts a major part of its trade with these countries and with the United States, and obtains technology and capital for its development from them.

Australia is located in a region which includes the politically, economically and strategically significant countries of North East and South East Asia and the many newly independent nations of the South Pacific. Awareness of the importance of these neighbouring states has led successive Australian governments to seek to promote and maintain friendly and co-operative relations with them, not only to ensure the stability and security of the region, but also to develop mutually-profitable trade, investment, exchange of technology, and co-operation in the development process. Australia gives special attention to its relations with China, Japan, ASEAN (the Association of South East Asian Nations) and its members, New Zealand, Papua New Guinea and the other South Pacific states.

Australia has also been concerned at the increasing instability in the world strategic environment, particularly in South West Asia, Indo China, the Middle East and Africa. These will remain issues of central importance to the Government's foreign policy concerns and to the Western alliance of which Australia is an active member.

New international issues (economic, resources, human rights, etc.) and new concepts of national interest are emerging, together with an increasing recognition of the growing interdependence of the world community. This is reflected in economic issues becoming one of the priorities in Australia's foreign policy. Australia recognises the importance and growing complexity of economic issues, particularly the slow-down in world trade and economic development and the continuing energy crisis affecting both developed and developing countries. The growing interdependence of national economic and foreign policies and the increasing vulnerability of Australia's economy to international trade and other developments will remain at the heart of Australia's foreign policy concerns for some while to come. Australia's recognition of the serious implications that many of these issues have for the relationships between developed and developing countries was shown by the establishment early in 1978 of a Committee on Australia's Relations with the Third World. The Committee's Report was issued in September 1979. Australia places a high priority on its participation in the resolution of these global issues in the United Nations, the Commonwealth and other multilateral forums.

The United Nations

Successive Australian Governments have reaffirmed their support for the United Nations (UN), its Charter and the work being done in the various specialised agencies. Within the United Nations and other organisations, Australia seeks to work toward the solution of the pressing problems confronting humanity today.

Australia is involved in a wide range of United Nations matters and has served on many United Nations bodies. It was a member of the Security Council in 1973-74 and, in 1975, a long period of membership on the Trusteeship Council came to an end with the independence of Papua New Guinea. It is a member of the Special Committee on Decolonisation and the UN Committee for Namibia.

Australia is a member of the Economic and Social Council for 1980-82. Australia also supports the work of the specialised agencies and subsidiary bodies in such areas as development assistance, drug control and human rights. It is an active participant in the economic work of the United Nations through such forums as UNCTAD, and was last a member of the UNDP Governing Council in

1977-79. It is a member of the UN Commissions on Human Rights, Human Settlements, and Narcotic Drugs, and on the Executive Board of the UN Children's Fund and the Governing Council of UNEP—and has been elected to the Statistical Commission for a four year term beginning in 1981. Australia is a member of three of UNESCO's Governing Councils.

Australia has been involved in almost all UN peacekeeping activities since these began. Australia has also contributed its assessed share of the costs of all UN operations and also makes voluntary contributions as well as providing men and equipment for peacekeeping forces.

Australia is also fully involved in the work of the UN on disarmament and outer space, and is a member of the main subsidiary bodies working in these areas.

Australia accepts the compulsory jurisdiction of the International Court of Justice and plays an active role in bodies concerned with the development of international law.

The Commonwealth

The Commonwealth is a distinctive and unique framework bringing together about a quarter of the world's population. Australia participates actively in the broad range of Commonwealth activities. It was host to the first regional Heads of Government meeting, in Sydney in February 1978, and will host the Commonwealth Heads of Government Meeting in 1981.

South East Asia

Australia shares with South East Asian countries a concern for peace and the economic and social development of the region. The Australian Government is in regular contact and consultation with South East Asian governments on a wide range of issues. Contacts with them have widened beyond the scope of official activity to include consultation between private sector organisations, co-operation in the trade and resources field, the export of Australian expertise and technology in joint enterprise arrangements, and direct Australian investment. Benefits from this growing economic relationship are mutual, and it is essential to Australia's economic and political future in its own region.

The range of personal contacts with the region continues to widen, as tourism develops, migration from Asia to Australia grows, student exchanges increase, and academic studies and press coverage of regional affairs expand.

Australia has particularly welcomed the progress made by ASEAN and its contribution to the promotion of regional cooperation. Australia has a significant interest in helping to ensure that ASEAN succeeds in generating economic growth and political stability and supports its wish to prevent domination of the region by any major power. Australia has entered a program of economic co-operation with ASEAN to which it has pledged a total of \$34.5 million.

Asia

Australia believes that peace and prosperity in Asia depend largely on the ability of countries in the region to co-operate to secure these objectives and in ensuring that no major power, either inside or outside the region, is able to exert an undue influence in the area.

Australia's primary interest and concern in Asia has long been reflected in its active role in regional associations and organisations such as the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the Colombo Plan, the Asian Development Bank and in many other bodies, both private and government.

Japan is Australia's largest trading partner, with total trade now around \$7,500 million a year and is a significant source of investment funds. Relations between the two countries in political, cultural, scientific, sporting and other areas are being actively fostered by both Governments with a view to enhancing mutual understanding and friendship.

Australia is developing its relations with China over a broad range of activities, putting aside the ideological and other differences between the two countries. There have been a growing number of visits by specialist groups between China and Australia, as well as several major cultural exchanges. Trade is growing, with China showing increasing interest in imports from Australia of mineral ores and other raw materials as it moves rapidly towards modernisation of its industrial base.

Australia's relations with the Republic of Korea are firmly established and steadily broadening. In addition to the important economic partnership, both countries are promoting exchanges in other areas.

Australia is developing its relations with Laos and gives it a modest amount of aid. Australia maintains normal diplomatic relations with Vietnam but the bilateral relationship has been affected by Vietnam's military occupation of Kampuchea, and until July 1979 the Vietnamese Government's involvement in the refugee exodus.

Australia recognises the strategic and political importance of the Indian sub-continent and has continued to strengthen friendly relations with the countries of that region. The Australian Prime Minister paid a State visit to India in January/February 1979.

Pacific

The relationship between Australia and New Zealand is one of the closest between any two countries. There is extensive contact and co-operation at all levels of Government and between non-Government groups and individuals based on historical, cultural and geographic affinities. Both Governments have recently established Australia New Zealand Foundations to further strengthen the relationship, and are also examining the possibility of closer economic co-operation.

Papua New Guinea is a major member of the South Pacific community and plays a significant role in the region. Australia's relations with Papua New Guinea have continued to develop since independence on 16 September 1975. There are close links between the two countries over a large range of activities. Australia each year provides substantial aid to Papua New Guinea, including budget support amounting in 1980-81 to \$244 million.

Australia looks to consolidate and to expand its co-operative activities to promote the stability, welfare, harmony and economic development of the region. Australia was a foundation member of the South Pacific Commission, the South Pacific Forum and the South Pacific Bureau for Economic Co-operation. Matters of common interest are regularly discussed with Australia's Pacific partners.

In important developments in the South Pacific relating to the law of the sea and fisheries, Australia is co-operating in efforts by countries of the region to secure the maximum benefits from marine resources. It has become a party to the convention establishing the South Pacific Forum Fisheries Agency. Australian aid programmes in the South Pacific are substantial in size and varied in nature, covering all types of infrastructural and other development projects. The Australian Government has approved a three year forward aid commitment of \$120 million and for the 1980-81 project aid to the region (excluding Papua New Guinea) is expected to amount to \$28 million. Australia has also established a small fund to promote the preservation and development of Pacific cultures. Australia and New Zealand recently entered into a Non-reciprocal Preferential Trade Agreement in favour of South Pacific Forum States. The Agreement is known as SPARTECA—South Pacific Regional Trade and Economic Cooperation Agreement.

The Americas

Australia has a long-standing and close relationship with the United States which extends across the whole range of the national life of both countries. Government-to-Government relations are only one part of a larger and more extensive interaction between the two countries which derives from common experiences, culture and language. In general, relations between the countries are warm and co-operative, with a high degree of official political consultation and a close personal relationship between the political leaders. The affinity between Australia and the United States is underpinned by substantial economic ties. The United States is Australia's largest supplier of imported items and its second largest export market.

Canada is, to a greater degree than other nations, a country comparable with Australia in terms of institutions and traditions, geographical size, economic standing and international outlook. The genuine goodwill established between the two countries has allowed Canada and Australia to co-operate on the achievement of mutually desirable objectives, reflecting individual national interests and competition in certain commercial fields.

Developments in the Caribbean and the Latin American region are of increasing importance to Australia, and resident missions have been established in Jamaica, Mexico, Chile, Argentina, Brazil, Peru and, most recently, Venezuela. Australia has observer status at the annual General Assemblies of the Organisation of American States.

Europe

Australia attaches considerable importance to maintaining warm and friendly relations with the countries of Western Europe, with the European Community and its institutions, including the Parliament.

Bilateral relations with individual Western European countries continue to be of considerable importance. These relations are promoted by the very close cultural and historical links we share with these countries and are reinforced by the presence in Australia of large numbers of people of recent European origin. Economic ties between Australia and the major Western European economies are likely to be significantly strengthened by a major increase in the export of Australian energy resources to Europe.

The European Community (EC) is Australia's second largest trading partner and a major source of investment funds and scientific and technological expertise. The 1979 agreement with the EC over the Multilateral Trade Negotiation (MTN) has gone only some way towards resolving trading difficulties. Australia remains committed to seeking the development of a closer and mutually advantageous relationship with the EC based on our wide range of common interests.

With the establishment last year of the first directly elected European Parliament, it is evident that the Parliament will assume an increasingly important role in the Community. Australia expects the visit of a delegation from the European Parliament early in 1981 during which the foundation for further mutually advantageous contact will be established.

Australia's relations with the Soviet Union have been circumscribed following that country's invasion of Afghanistan. The Government has denounced unequivocally the Soviet invasion as being totally without justification and as being in contempt of the Charter of the United Nations. Australia does not accept the Soviet view that what has occurred in Afghanistan can be divorced from the conduct of bilateral relations. To demonstrate its concern, the Government has taken a number of measures to curtail relations between Australia and the Soviet Union.

Australia has expanded its contacts with Eastern European countries in the past decade, which saw the establishment of diplomatic missions in Yugoslavia, Poland and the German Democratic Republic (GDR). Eastern Europe is a sensitive area in world affairs and Australia has an interest in the maintenance of a balanced East/West relationship. Eastern Europe also has significant potential for Australian exports, particularly commodity exports, and our trade relations with the area have been expanding. Another aspect of our relations with Eastern Europe is the presence in Australia of large ethnic groups from countries of the region which have substantial links with their country of origin, notably in the cultural field.

The Middle East

Much value is placed on Australia's longstanding and close relations with the Arab nations and with Israel. Australia has an interest in seeing what is probably a most serious threat to world peace removed. Although Australia's ability to bring influence to bear towards a settlement in the Middle East is very limited, it has important interests in the region which cannot be overlooked. Australia supports the Peace Treaty between Israel and Egypt, seeing it as the first step towards a just, lasting and comprehensive peace settlement in the Middle East. Australia sees the basis for a peaceful settlement in the United Nations' Security Council resolutions 242 and 338. It regards full recognition of Israel's right to exist as an essential part of any settlement and at the same time supports legitimate rights of the Palestinian people to a homeland alongside Israel. The terms of a settlement are a matter for negotiation among the parties directly concerned.

Africa

Australia wishes to broaden the range of its contacts with independent black African states and consolidate links with those with which it already enjoys friendly relations. It maintains formal diplomatic relations with South Africa without allowing this to derogate from its opposition to that country's policies of racial discrimination. Australia has supported international action and has welcomed negotiations to bring about majority rule in both Namibia and Zimbabwe.

Indian Ocean

Australia is concerned that the Indian Ocean should not become a major area of superpower competition and believes that there should be a balance at the lowest practicable level between the forces of the superpowers in the region. Discussions between the United States and the Soviet Union on mutual arms limitation in the Indian Ocean began in 1977 but were suspended in 1978. Australia supported the idea of such mutually negotiated limitations and would again support them if circumstances favourable to negotiations were to return. Australia continues to play an active role in the UN Ad Hoc Committee on the Indian Ocean in its consideration of the proposed implementation of the Declaration of the Indian Ocean as a Zone of Peace.

ANZUS

Maintenance of the ANZUS alliance with the United States and New Zealand remains of major importance in Australian foreign policy. The alliance continues to play a valuable role in the promotion of stability and normal relations in the Asian and Pacific area.

Nuclear issues

Australia's nuclear policies are based on strong support of the Nuclear Non-Proliferation Treaty (NPT), which Australia ratified in 1973.

On 24 May 1977, the Prime Minister announced Australia's nuclear safeguards policy to cover exports of Australian uranium under new contracts. The policy includes requirements for International Atomic Energy Agency safeguards on Australian origin nuclear material, the conclusion of bilateral nuclear safeguards agreements with customer countries, and support for constructive international non-proliferation initiatives. Nuclear safeguards agreements incorporating all the requirements of the Government's policy have been signed with Finland, the Philippines, the Republic of Korea, the United States and the United Kingdom. Negotiations are continuing with other countries.

Australia participated in the two year International Nuclear Fuel Cycle Evaluation study (INFCE), established in October 1977 to examine ways in which nuclear energy could help in meeting the world's energy needs consistent with nuclear proliferation objectives. INFCE successfully completed its work in February 1980.

During the post-INFCE period, international attention is concentrating on improved safeguards, improved assurance of nuclear supply and new institutional barriers to proliferation such as an international plutonium storage scheme. Australia is participating in work in these areas under the auspices of the International Atomic Energy Agency (IAEA). Australia is a member of the Board of Governors of the IAEA and also a member of the Nuclear Energy Agency of the Organisation for Economic Cooperation and Development.

Australia encourages universal adherence to the NPT and supports other measures to strengthen generally international arrangements to provide assurance against the further spread of nuclear weapons.

Disarmament and arms control

For a number of years Australia has been active in promoting nuclear arms control and disarmament objectives in the United Nations, and, since January 1979, as a member of the Committee on Disarmament in Geneva. Australia attaches particular priority to the earliest possible conclusion of a treaty banning all nuclear testing in all environments. Australia is also active on a number of non-nuclear disarmament questions. A promising start to serious consideration of a possible chemical weapons convention has been made in the Committee on Disarmament.

Australia has acceded to the following disarmament and arms control agreements: The Partial Test Ban Treaty, the Geneva Protocol (on Asphyxiating, Poisonous or Other Gases), the Outer Space Treaty, the Seabed Arms Control Treaty, the Nuclear Non-Proliferation Treaty, the Biological Weapons Convention, and the Environmental Modification Ban.

North-South Relations

Australia seeks to play a constructive role in the dialogue on international economic issues between the developed ('the North') and developing countries ('the South'). Proposals directed to the establishment of a New International Economic Order (NIEO) cover a range of possible initiatives which developing countries argue will promote a more efficient and more equitable international economic system and facilitate more rapid growth in developing countries. Australia shares economic interests with the developing countries and has taken a forward position on a number of North-South issues. Australia has worked actively in recent years to pursue changes to the system which are viable and effective, and which are aimed at promoting a greater harmony of interests in an increasingly interdependent world.

Law of the Sea

Australia is participating in the Law of the Sea Conference, the largest and potentially, the most important conference in the history of the United Nations, involving major strategic, economic, transport, scientific and environmental issues. The current draft text of a Convention includes articles on the system of exploration and exploitation of the deep seabed beyond the limits of national jurisdiction; the extension of the territorial sea to 12 nautical miles; the establishment of coastal state sovereign rights in the living and non-living resources of an 'exclusive economic zone' of 200 nautical miles; recognition of coastal state sovereign rights over the exploration and exploitation of the natural resources of the continental shelf, defined in terms of the natural prolongation of the land-mass; protection and preservation of the marine environment; marine scientific research; and the settlement of disputes. Rights of freedom of navigation and passage through straits and archipelagos which are important to trading nations such as Australia are also recognized in the text. The Conference has reached informal agreement on all but a few of the 400 articles in the negotiating text and its annexes and negotiations on the outstanding issues are at an advanced stage. It is hoped that negotiations can be concluded in 1981.

Antarctica

Australia has had a long association with Antarctica commencing with early expeditions and continuing until today with an active scientific program. Its importance to Australia derives from its geographical proximity, the history of Australian involvement there and Australian administration of the Australian Antarctic Territory. Australia maintains three permanent bases in the Territory at Casey, Davis and Mawson (as well as one on Macquarie Island).

As one of the twelve original signatories Australia attaches particular significance to the Antarctic Treaty of 1959, which serves important Australian scientific, environmental and security interests. Australia hosted the First Antarctic Treaty Consultative Meeting in Canberra in 1961 and such meetings are held approximately every two years in one of the Consultative Party States. In May 1980 Australia was host to a diplomatic conference in Canberra which successfully concluded negotiations on a Convention for the Conservation of Antarctic Marine Living Resources. The Convention was signed in September 1980 and Australia is expected to be the host for a preparatory meeting next year to facilitate the early operation of the Commission which will be set up in Hobart to administer the Convention.

Treaties

The texts of bilateral and multilateral treaties to which Australia becomes a party are printed in the Australian Treaty Series when they enter into force. The most recent consolidation of the Australian Treaty List was published as Australian Treaties Series 1971, No. 1. Australia's current position with regard to individual treaties may be ascertained by referring to the 1971 list in conjunction with Cumulative Supplement No. 3 and the annual lists of Treaty Action for 1974, 1975, 1976, 1977, 1978 and 1979. These publications are available from the Australian Government Publishing Service.

Cultural Relations

The Department of Foreign Affairs administers a program of cultural relations overseas in furtherance of the Government's foreign policy objectives. The program includes exchanges in the performing and visual arts, sport, film and literature as well as academic exchanges. The Department co-operates and consults with Australian organisations active in international cultural exchange.

Australia has cultural agreements with France, Greece, India, Indonesia, Iran, Italy, Japan, South Korea, Malaysia, the Philippines, Romania, Singapore, Thailand, USSR, and Yugoslavia. A cultural program is agreed annually with China and a cultural agreement is currently being negotiated.

Australian Aid Program—1980–81

Australia's development assistance program is directed towards promoting economic growth and social advancement in developing countries, particularly in the Asian and Pacific regions. It aims to meet the expressed needs of these countries and is directed towards key activities in their economies, such as rural development. All of Australia's aid is given in grant form and a significant proportion is untied.

About 80 countries receive assistance, but Australia's efforts are aimed principally at assisting its nearest neighbours—Papua New Guinea (PNG), the South Pacific region—and member countries of the Association of South-East Asian Nations (ASEAN).

In 1980–81, Australia expects to spend about \$547 million on its aid program. Of this amount, \$445.8 million (81.4 per cent) will be provided as bilateral aid given directly to the governments of developing countries. The major elements of the bilateral program are budgetary support for PNG, project aid (equipment and expertise), the education of Third World students and trainees, food aid and assistance through non-government organisations. Development import grants have become a permanent feature of the program this year and will be available to certain South Pacific, African and Indian Ocean countries. A new item—Development Import Finance Facility and Joint Venture Scheme—is an element of the program. The facility will enable ASEAN countries to import capital goods and services required by the development objectives on more concessional terms than are available commercially.

In addition, \$102 million has been allocated to multilateral agencies. Support provided to these bodies has been increased by 14 per cent over the previous year, with a large increase going to the International Development Association of the World Bank.

Australia has increased the level of its forward commitment of aid to the South Pacific nations. Over the period 1980–81 to 1982–83, it will provide \$120 million to these countries. Australia is now the principal source of developmental funds in the South Pacific.

Australia will provide Zimbabwe with development assistance amounting to \$10 million to help it through its initial post independence phase. The Australian Government has allowed as tax deductions contributions made to international appeals for Kampuchea and East Timor during 1979-80. These were the first occasions for which such donations have been made eligible for tax deduction. The Government has now decided to extend tax deductions to eligible non-government organisations active in overseas aid activities.

Training

During 1980-81 Australia will sponsor more than 3,000 people to study in Australia and Third World countries. The training program is designed to assist countries in Asia and the Pacific and Indian Ocean regions to develop the manpower skills needed for social and economic development.

Australia's training program seeks to encourage recipient governments to relate their requests for training to their national development priorities. The aim is a matching of Australian expertise with the requirements of recipient governments, whose role it is to decide who should be nominated for scholarships and also to indicate the level of training required and the field of study.

A new approach in providing training assistance is the progressive development of country training 'packages' for each recipient of Australian aid. Each package seeks to meet, in part or in whole, the recipient's manpower training needs in fields in which Australia has special expertise.

Within Australia the training includes individual training awards to regular Australian courses and special group courses known as Australian Development Assistance Courses (ADACs), some of which are run at the International Training Institute in Sydney. Courses planned for 1980-81 will be in fields such as agriculture, health, engineering, education and management.

Australia's international training awards are provided under a number of regional, Commonwealth and other schemes. They include the Colombo Plan; the Special Commonwealth African Assistance Plan; the Commonwealth Co-operation in Education Scheme; the South Pacific Aid Program; the Australia Papua New Guinea Education and Technical Assistance Scheme; the Australian-Asian Universities Co-operation Scheme; and the South-East Asian Ministers of Education Scheme.

Spending on training and educational aid is estimated at \$18.7 million.

The following table shows the number of private students and sponsored overseas students and trainees in Australia. The Department of Immigration and Ethnic Affairs and the Department of Education prepare statistics of overseas students admitted under the *Private Overseas Student Program*. The statistics in the following table exclude practical experience and specialised trainees, exchange students and students not currently undertaking study. Further details on sponsored overseas students and trainees in Australia are available from publications issued by the Australian Development Assistance Bureau within the Department of Foreign Affairs.

OVERSEAS STUDENTS: NUMBER OF PRIVATE STUDENTS AND SPONSORED STUDENTS AND TRAINEES BY LAST PLACE OF RESIDENCE

<i>Last place of residence</i>	<i>Private students (b)</i>	<i>Sponsored students and trainees (a)</i>				<i>Total</i>
		<i>Colombo Plan</i>	<i>Commonwealth Co-operation in Education</i>	<i>Home government</i>	<i>Other</i>	
Africa	139	—	37	15	193	245
America	185	—	18	2	8	28
Asia—						
Burma	—	11	—	—	3	14
Brunei	—	—	—	1	—	1
China—						
Excluding Taiwan Province	3	—	—	—	—	—
Taiwan Province only	22	—	—	—	—	—
Hong Kong	1,169	—	5	17	1	23
India	160	21	4	—	4	29
Indonesia	478	183	—	13	32	228
Japan	217	—	—	—	—	—
Laos	—	45	—	—	—	45
Malaysia	4,875	154	3	219	19	395
Pakistan	41	23	—	—	1	24
Philippines	76	35	—	—	13	48
Singapore	339	99	2	1	2	104
Sri Lanka	107	54	4	—	6	64
Thailand	291	172	—	5	11	188
Vietnam	—	16	—	—	29	45
Other Asia	79	157	7	5	4	173
<i>Total Asia</i>	<i>7,857</i>	<i>970</i>	<i>25</i>	<i>261</i>	<i>125</i>	<i>1,381</i>
Europe	229	—	2	—	2	4
Oceania—						
Fiji	339	—	21	13	42	76
Nauru	77	—	—	1	—	1
New Caledonia	16	—	—	—	—	—
Papua New Guinea	129	—	—	—	87	87
Solomon Islands	19	—	—	—	13	13
Tonga	28	—	8	1	32	41
Other Oceania	44	—	7	—	25	32
<i>Total Oceania</i>	<i>652</i>	<i>—</i>	<i>36</i>	<i>15</i>	<i>199</i>	<i>250</i>
Not stated	13	—	—	—	—	—
Total overseas students	9,118	970	118	293	527	1,908

(a) As at 30 June 1979. (b) Excludes practical experience and specialised trainees, exchange students and students not currently undertaking study as at 30 June 1980.

Food Aid

Food aid has always been an important part of Australia's aid program. This year Australia has allocated over \$78.5 million for food aid, more than double its June 1977 level when Australia announced significant changes to the food aid program. Most of Australia's food aid is given bilaterally and is generally allocated among developing countries on the basis of relative need. More than 20 countries in South Asia, Africa and the Pacific Islands receive gifts of food grain, mainly wheat, flour and rice. The largest amounts go to Bangladesh, Indonesia, Pakistan, Egypt and Sri Lanka.

Australia also has a non-grain food program providing non-grain foods valued at \$2.5 million for special nutritional impact projects in five or six developing countries.

As well as providing food bilaterally, Australia channels resources through the World Food Program (WFP). Total value of this aid through the WFP is about \$21.9 million.

Part of Australia's food grain aid is directed to the International Emergency Food Reserve for use on a bilateral and multilateral basis to help feed people living in areas struck by droughts, floods, pests and other natural disasters. Food aid is being provided for disaster relief operations in areas of East Africa suffering extreme hardship and malnutrition as a result of severe and prolonged drought. Australia for some time has been supporting efforts to alleviate suffering in Uganda, and Sudan with its Eritrean refugees.

Papua New Guinea

More than half of Australia's bilateral aid goes to PNG because of a special relationship with the country based on long historical association. The level of Australian aid in 1980-81 is \$243.7 million, of which \$232 million is a direct grant to help PNG meet its budget priorities. Under the terms of the five-year aid agreement of 1976, Australia has guaranteed PNG at least \$180 million a year, to which an annual supplement for inflation and other factors has been added. The supplement this year is \$52 million. Arrangements for assistance beyond this financial year are currently under consideration.

In addition to the budget support grant, which is untied, Australia provides aid for construction work at Port Moresby airport, the cost of termination payments and retirement benefits for former Australian employees, and training for Papua New Guineans. This training will be supplemented by a jointly funded technical assistance program to be introduced this year. It will provide services and related equipment to increase the technical capacity and capability of Papua New Guinea.

Bilateral Projects

Most of Australia's bilateral aid to countries other than PNG is for specific development activities undertaken by the developing countries. These range from large-scale regional development programs to simple facilities in villages. At 1 July 1980, Australia was involved in 474 projects in 35 countries. The total value of its contribution is about \$512 million. Generally, Australia meets the foreign exchange costs of a project, but it also pays, in an increasing number of cases, some of the local costs associated with projects.

South-East Asia receives the bulk of Australia's bilateral project aid. Australia is contributing about \$340 million to 125 projects in the region. Many of these involve infrastructure development work, agricultural improvements through crop and livestock research as well as practical extension work. In recent years Australia has become increasingly involved in large-scale, integrated rural development programs intended to bring about the balanced growth of whole regions, particularly in Indonesia, the Philippines and Thailand.

ASEAN member countries are major beneficiaries of Australia's project aid. The basis of the aid program to these countries has been a \$250 million commitment announced by the Prime Minister in August 1977 and subsequently brought back to the original level in 1979.

South Pacific countries will benefit from a three-year forward aid commitment of \$120 million over the period 1980-81 to 1982-83. This is an increase of \$36 million over the \$84 million approved for the three years 1979-80 to 1981-82. The expenditure target in 1980-81 for project activities in the South Pacific is \$28.2 million. Most of it will be in the form of bilateral project aid for Fiji, Tonga, Western Samoa, Solomon Islands, Vanuatu, Kiribati, Tuvalu, Cook Islands and Niue.

At 1 July 1980, Australia was undertaking 235 projects in the South Pacific worth \$74 million. The large number of projects reflects the small-scale nature of island economies. These projects cover a wide range of activities and include assistance with transportation, rural development, water and sewerage schemes, telecommunications and upgrading health facilities.

South Asian countries and certain African and Indian Ocean States receive significant amounts of project aid mainly to help rural development and meet the needs of the poor. Australia's total contribution to the 64 aid projects in South Asia is \$72 million.

Africa and the Middle East have a relatively small number of projects funded by Australia. The agricultural sector is the main target for these projects, which are mostly in Tanzania, Kenya, Zambia and Ghana. Australia is giving \$18 million to 30 projects in these regions.

Non-Government Organisations (NGO)

The Australian Government gives financial assistance to a number of Australian and international non-government organisations for their development assistance activities. Support for these organisations this year is about \$3 million. The principal avenue of Government/NGO co-operation is a Project Subsidy Scheme under which eligible NGOs are assisted to undertake a variety of small scale projects at the grass roots level in developing countries. Further evidence of the Government's commitment to assist the work of NGOs is the decision to make donations to a large number of NGOs active in aid work tax deductible.

Multilateral Aid

Australia contributes to several international organisations and financial institutions concerned with aid to developing countries. They include the World Bank Group, Asian Development Bank, United Nations Development Program (UNDP) and other UN agencies, International Fund for Agricultural Development, Commonwealth Fund for Technical Co-operation, Economic and Social Commission for Asia and the Pacific, South Pacific Bureau for Economic Co-operation, South Pacific

Commission and various international science, technology and research centres. Support for these bodies provides Australia with an opportunity to participate in major development projects which are beyond the resources of individual donors.

Contributions to international financial institutions are estimated at \$48,905,000 and include substantial rises in amounts this year to the World Bank Group and Asian Development Bank.

Payments to UN, regional and international agencies are estimated at \$53,155,000 including \$21,863,000 to the World Food Program. The main Australian contribution to technical assistance through UN agencies is to UNDP, which will receive more than \$3.6 million, to fulfil Australia's 1980 pledge to this body. The 1981 pledge will be paid next financial year. The United Nations Children's Fund will be given \$3 million. Contributions to the United Nations High Commissioner for Refugees will total \$5.01 million; the United Nations Fund for Population Activities will be given \$1,229,000.

A sum of \$3,738,000 will be directed to international science, technology and research programs and \$800,000 is held for contributions to the International Fund for Agricultural Development. Payments of up to \$1.8 million will be made to the Commonwealth Fund for Technical Co-operation, and up to \$5.1 million to regional multilateral organisations' programs and projects in Asia and the South Pacific, in line with Australia's aim of fostering regional co-operation.

Passports

The Department of Foreign Affairs is responsible for Australian passport matters. Australian passports are normally valid for five years. Proof of citizenship must be produced. It is the responsibility of the passport holder to obtain any necessary visas. More than one million Australians travel abroad each year. The Department issued 453,000 new passports in 1979.

Diplomatic representation

The Department of Foreign Affairs is responsible for advising its Minister on the conduct of foreign affairs and relations with foreign governments. It operates 85 Australian diplomatic missions and consular posts, and has responsibility for the protection of Australian interests and Australian citizens abroad. Numbers of Australians travelling overseas are increasing, as are the numbers of those requiring consular assistance.

CHAPTER 6

DEMOGRAPHY

This chapter deals with the size, growth, geographic location and characteristics of the population and with components of population change, namely births, deaths, marriage, divorce and migration.

The sources of the statistics in this chapter are population censuses, population surveys, State and Territorial registers of births, deaths and marriages, records of courts dealing with divorce, and other administrative records such as passenger cards required from international travellers and records of electoral roll and family allowance transfers.

With the proclamation of the *Constitution Alteration (Aboriginals) Act* 1967 on 10 August 1967, the provision in Section 127 of the Constitution requiring the exclusion of Aboriginals in reckoning the numbers of the people of the Commonwealth or of a State or other part of the Commonwealth was repealed. Accordingly, population and vital statistics for all dates subsequent to 10 August 1967 no longer exclude full-blood Aboriginals. Also, estimates for periods back to 30 June 1961 have been revised to include Aboriginals.

The references at the end of this chapter list publications of the Central Office of the Australian Bureau of Statistics dealing specifically with the topics of this chapter.

THE POPULATION

The population census

Basic enumerations of the population have been made since the early days of settlement in Australia. The early enumerations were known as 'musters'. A census conducted in New South Wales in 1828 became the first in a series of regular censuses in that colony. Periodic censuses were taken in the other Australian colonies. The first simultaneous censuses of all the Australian colonies was taken in 1881. The first national census was taken in 1911. It was followed by others in 1921, 1933, 1947, 1954, 1961 and at five yearly intervals thereafter. A special article on early censuses appears in Year Book No. 15 of 1922. A special article outlining the history, purposes, legal basis, organisation and publication of results of population censuses appears in Year Book No. 53 of 1967, pages 164–70.

Every census from 1881 has inquired into age, sex, marital status, birthplace, nationality or citizenship, and occupation. A wide variety of other topics has been included from time to time.

The most recent census in Australia was conducted on 30 June 1976. In addition to the basic demographic topics mentioned above, questions were asked on income (included for the first time since 1933); the effects of handicaps; child care arrangements; and mortgage repayments. The data from the 1976 Census is based on a sample of the schedules. The sample included all the schedules from the Northern Territory and from non-private dwellings (e.g. hotels, hospitals, jails), together with 50 per cent of the remaining householders' schedules.

The population census in Australia is *de facto*, i.e. persons are enumerated where they spend census night even though that may not be where they usually live. Visitors to Australia are enumerated if they are in Australia on census night, regardless of the duration of their stay. Foreign diplomatic personnel and their families are out of scope of the Census as well as all persons residing in diplomatic residences on census night.

Despite elaborate arrangements aimed at obtaining complete coverage, it is not possible to ensure that a census schedule is returned for every individual. Some error inevitably remains for various reasons (e.g. inadvertent omission of very young children, missed dwellings or occupied dwellings mistakenly taken as unoccupied). Since 1966, sample surveys have been taken soon after each census to discover the approximate extent of underenumeration and the effects on the census results of misstatement or nonreply to specific questions. From these studies it appears that underenumeration has increased over the most recent censuses. Underenumeration of the population of Australia at the 1976 census is estimated to have been 2.7 per cent. Estimated underenumeration of State and Territory populations ranged from 1.1 per cent in Tasmania to 4.4 per cent in the Northern Territory. Underenumeration varies from location to location and for populations of different ages and other characteristics. These and similar problems are common to all population censuses and, although underenumeration has increased in Australia since the 1971 census, it is of a similar order to that experienced by comparable countries.

Population estimates

The census enumeration, adjusted for underenumeration, forms the basis for quarterly estimates of the population by sex and State. These are calculated by updating for subsequent births and deaths and for overseas and interstate migration. Age estimates as at 30 June each year are published by sex for each State and Territory. Small area population estimates are also made annually.

From 1976, and retrospectively to June 1971, the overseas migration component is defined as the excess of arrivals over departures of permanent and long-term movements. Long-term includes visits to or absences from Australia lasting one year or longer. Previously, all overseas movement was included. Since 1961, interstate movement which enters the calculation of population estimates for the States and Territories has excluded holiday, business or other short term movements. Thus, quarterly changes due to short term overseas movement are reflected in Australian and State population figures prior to 1971 but not thereafter, and quarterly movements due to interstate travel are reflected in population figures prior to 1961 but not thereafter.

Estimates of the population at 30 June 1971 and 30 June 1976 are based on the population as counted in the censuses with an adjustment for underenumeration. The estimate of the population at 30 June 1971 is 12,937.2 thousand compared with the counted population of 12,755.6 thousand. The estimate of the population at 30 June 1976 is 13,915.5 thousand compared with the counted population of 13,548.5 thousand. A provisional estimate of the population at 30 June 1980 is 14,605.3 thousand. While adjustments have been made to the estimates of the age and sex of the population of each State and of the population of each local government area, it is not possible to adjust all the statistical material derived from the census.

The quarterly estimates from June 1971 to June 1976 have also been revised to take into account the 1976 census and to allow for underenumeration at that and the preceding census.

Mean populations, by sex, are calculated for calendar and financial years and are used in the calculation of crude rates.

Size and growth of Australia's population

When Europeans first settled in Australia, the Aboriginal population is believed to have been at least 300,000. The Aboriginal population suffered a drastic decline in numbers over the next 145 years so that by 1933 it is estimated to have totalled about 67,000. It has since risen (to about 161,000 in 1976).

The population of Australia reached 1 million in 1858, 5 million in 1918 and 14 million early in 1977.

From 1861 natural increase has been the major element in population growth, and immigration the most variable. In the years 1861 to 1890, total growth on average exceeded 3 per cent a year and natural increase 2 per cent. The rate of natural increase declined during the last decade of the nineteenth century and the first decade of the twentieth century, and this, together with a near cessation of immigration during that period, reduced the rate of growth from 3.70 per cent in 1861-70 to 1.63 per cent in 1901-10.

The 1914-18 war was the dominating influence in the decade 1911-1920: during the war and immediate post-war years the birth rate rose and immigration was resumed. In the economic depression of the 1930s, however, natural increase fell to very low levels and immigration ceased; indeed, in some years, overseas departures exceeded arrivals.

With the outbreak of the 1939-45 War, Australia entered a new phase. The immediate effect of the war was to increase the number of marriages and births. The increasing births more than offset the rise in deaths due to war casualties and higher civilian death rates. Migration in these years was negligible.

The period 1947 to 1961 was marked by continued high natural increase and a resumption of immigration, the latter resulting in very high net gains in each of the four years 1949 to 1952.

Between 1961 and 1970, net migration continued at about the same level as in the previous decade, but there were declines in the crude birth rate and the rate of natural increase. The years since 1971 have been characterised by a reduced rate of natural increase due to a decline in the birth rate and lower levels of net migration; together, these have resulted in the lowest rate of population growth for 30 years; 1.02 per cent in 1975 and 1976. In 1979, the rate of growth was 1.22 per cent, of which 0.81 per cent was due to natural increase and 0.41 per cent to net migration. The estimates in the following table relate to the end of December. Estimates for the end of June are given in other tables.

POPULATION AND COMPONENTS OF GROWTH

Period	Population at end of period (^{'000}) (a)	Average annual rate of growth (b) (per cent)		
		Natural increase	Net migration (c)	Total
1851-1860	1,145.6			
1861-1870	1,647.8	2.47	1.23	3.70
1871-1880	2,231.5	2.07	1.01	3.08
1881-1890	3,151.4	2.05	1.46	3.51
1891-1900	3,765.3	1.73	0.07	1.80
1901-1910	4,425.1	1.53	0.10	1.63
1911-1920	5,411.3	1.60	0.43	2.03
1921-1930	6,500.8	1.32	0.53	1.85
1931-1940	7,077.6	0.79	0.05	0.85
1941-1950	8,307.5	1.13	0.47	1.61
1951-1955	9,311.8	1.38	0.95	2.31
1956-1960	10,391.9	1.40	0.83	2.22
1961-1965	11,505.4	1.27	0.74	1.98
1966-1970	12,663.5	1.11	0.91	1.94
1971-1975	(d) 13,849.3	1.08	0.49	1.59
1972	(d) 13,283.9	1.19	0.43	1.64
1973	(d) 13,490.6	1.03	0.51	1.56
1974	(d) 13,709.5	0.96	0.65	1.62
1975	(d) 13,849.3	0.90	0.10	1.02
1976	(d) 13,991.2	0.83	0.18	1.02
1977	(d) 14,163.5	0.84	0.39	1.23
1978	(d) 14,330.9	0.82	0.36	1.18
1979p	(d) 14,516.5	0.81	0.48	1.29

(a) Excludes full-blood Aborigines prior to 1961. (b) The average annual rates of population growth for periods greater than one year are calculated on the compound interest principle. The rates refer to the population at the beginning of the period. Discrepancies between the sum of the rate of growth due to natural increase and net migration and the rate of total growth are due to intercensal adjustments. (c) From 30 June 1971, net migration is defined as the excess of overseas arrivals over overseas departures classified as permanent and long-term movement. (Long-term includes visits to and absences from Australia lasting one year or longer). From 30 June 1933 to 30 June 1971, net migration represents the excess of all arrivals over all departures. Prior to 30 June 1933, net migration includes discrepancies disclosed by the various censuses, which were corrected by adjusting recorded overseas departures. (d) These population estimates and rates of growth incorporate revisions resulting from an examination of evidence of underenumeration in the 1976 and 1971 censuses. The estimated population at 31 December 1970 used to compute rates of growth thereafter was 12,799,600.

Projections of the population

Projections of Australia's population are made using the component method in which a base population is brought forward year by year by applying assumptions about future trends of fertility, mortality and the characteristics of overseas migration.

The projections given here cover the years to 2011 and are based on provisional estimates of the population for 1978. The assumptions used in the projections are as follows:

Fertility. Rates were chosen on the assumptions that first births will stabilise by about 1981 at a level somewhat lower than that experienced by recent generations of women; that the proportion of women with one child who will have a second child will remain more or less the same; and that the falling off in fertility rates among women who have 3 or more children will continue until 1984. The overall effect will be a further small decline of fertility followed by a rise to replacement level in 1984. Constant rates are assumed thereafter.

Mortality. It is assumed that the 1975-76 age specific mortality rates will apply for the duration of the projections except that infant mortality is assumed to continue to decline. It was assumed that the annual rate of improvement would decline by about one per cent per annum bringing the infant mortality rate to 7.7 for males and 6.0 for females in 2011.

Migration. Net immigration has been projected at an illustrative level of 50,000 persons per year. The age-sex composition is based on the pattern of permanent arrivals and departures in the 5 years 1972 to 1976.

According to these projections, the population will number 17.4 million in 2011 without further immigration and 19.6 million with net immigration at 50,000 persons a year.

PROJECTED POPULATION OF AUSTRALIA: 1978 TO 2011
(*000)

<i>30 June—</i>	<i>Excluding migration after 30 June 1978</i>	<i>Resulting from net immigration at the illustrative level of 50,000 persons a year after 30 June 1978</i>	<i>Including net immigration at the illustrative level of 50,000 persons a year after 30 June 1978</i>
1978(a)	14,259.0	..	14,259.0
1979(b)	14,359.9	50.6	14,410.5
1980	14,460.8	102.4	14,563.1
1981	14,564.9	155.4	14,720.3
1986	15,154.7	440.9	15,595.6
1991	15,734.6	753.2	16,487.8
1996	16,262.4	1,085.0	17,347.4
2001	16,705.2	1,436.0	18,141.3
2006	17,058.1	1,809.2	18,867.3
2011	17,375.4	2,205.3	19,580.7

(a) Preliminary estimate of population at 30 June 1978 which formed the base of the projections.

(b) These figures differ from the population estimate.

The average annual rate of growth would rise from 0.7 per cent to 0.8 per cent and would then decline to 0.4 per cent, if there is no further immigration or emigration. The birthrate on the assumptions used would rise from 15 per thousand to 17 per thousand and would then decline to 14 per thousand. The crude death rate would rise from 8 per thousand to 11 per thousand.

With immigration at 50,000 persons a year, the average annual rate of growth would fall from 1.1 per cent to 0.7 per cent. The crude birthrate would rise from 15 per thousand to 17 per thousand and would then fall to 15 per thousand. The death rate would rise from 8 per thousand to 10 per thousand.

PROJECTED AVERAGE ANNUAL RATES OF GROWTH (a), AUSTRALIA 1978 TO 2011
(Per cent)

	<i>Excluding migration after 30 June 1978</i>			<i>Including net immigration at the illustrative level of 50,000 persons a year after 30 June 1978</i>				
	<i>Births</i>	<i>Deaths</i>	<i>Rate of growth</i>	<i>Births</i>	<i>Deaths</i>	<i>Natural increase</i>	<i>Net immigration</i>	<i>Rate of growth</i>
1978-81	1.55	0.84	0.71	1.56	0.84	0.72	0.35	1.07
1981-86	1.68	0.88	0.80	1.70	0.87	0.83	0.33	1.16
1986-91	1.67	0.92	0.75	1.70	0.90	0.80	0.31	1.12
1991-96	1.62	0.96	0.66	1.65	0.92	0.72	0.30	1.02
1996-2001	1.53	0.99	0.54	1.56	0.95	0.61	0.28	0.90
2001-06	1.44	1.02	0.42	1.49	0.97	0.51	0.27	0.79
2006-11	1.42	1.06	0.37	1.48	1.00	0.48	0.26	0.74

(a) Calculated using the compound interest principle. The rates are split between the components of natural increase and net migration according to the relative size of each component.

The proportion of juveniles aged under 15 would fall from 26 per cent to 21 per cent without immigration and to 22 per cent with immigration. The proportion of elderly aged 65 and over would rise from 9 per cent to 12 per cent without immigration and to 11 per cent with immigration. The proportion of the population aged 15 to 64 would increase from 65 per cent to 67 per cent whether or not there is any further immigration.

PROJECTED AGE DISTRIBUTION AND MEDIAN AGE

30 June	<i>Excluding migration after 30 June 1978</i>				<i>Including net immigration at illustrative level of 50,000 persons a year</i>			
	<i>Age distribution (per cent)</i>			<i>Median age (years)</i>	<i>Age distribution (per cent)</i>			<i>Median age (years)</i>
	<i>0-14</i>	<i>15-64</i>	<i>65 & over</i>		<i>0-14</i>	<i>15-64</i>	<i>65 & over</i>	
1978	26.2	64.6	9.2	28.9	26.2	64.6	9.2	28.9
1981	25.0	65.4	9.7	29.8	25.0	65.4	9.6	29.7
1986	23.6	66.3	10.2	30.9	23.9	66.2	10.0	30.6
1991	22.9	66.3	10.8	32.0	23.4	66.2	10.5	31.6
1996	23.2	65.7	11.1	33.1	23.7	65.7	10.6	32.6
2001	22.7	66.3	11.0	34.1	23.2	66.4	10.4	33.3
2006	21.8	67.0	11.2	35.1	22.4	67.1	10.5	34.3
2011	21.1	67.1	11.9	36.0	21.8	67.3	11.0	34.8

Location of the population

For historical, climatic and economic reasons the population of Australia is concentrated in capital cities and other major towns, mainly on the south and east coasts of the continent. In June 1979, 69.78 per cent of the population lived in the national capital, the six State capital cities and five other major towns of 100,000 or more persons (metropolitan statistical divisions and statistical districts). Of these, only Canberra is located inland. The percentage of the population living in rural areas has declined over the years as the major cities and towns have attracted most of the population growth; there have been periods when the rural population has actually declined in numbers. This trend, however, appears to have slowed considerably since 1971. In 1979, New South Wales and Victoria were the States with the highest per cent of population living in capital cities and towns of over 100,000 (74.8 per cent), followed by South Australia (72.1 per cent), Western Australia (71.1 per cent), Queensland (52.7 per cent) and Tasmania (40.3 per cent).

POPULATION IN CAPITAL CITIES AND OTHER MAJOR TOWNS OF
100,000 PERSONS OR MORE
(^{'000 persons})

	30 June 1977	30 June 1978	30 June 1979
Sydney (a)	3,121.8	3,155.2	3,193.3
Melbourne (a)	2,694.1	2,717.6	2,739.7
Brisbane (a)	995.1	1,004.5	1,015.2
Adelaide (a)	922.8	930.5	933.3
Perth (a)	843.8	864.9	883.6
Newcastle (b)	372.3	375.3	379.8
Canberra (b)	227.0	234.8	241.3
Wollongong (b)	220.3	222.0	224.0
Hobart (a)	164.5	166.5	168.5
Geelong (b)	138.4	139.9	141.1
Gold Coast (c)	125.9	133.1	143.3
Total	9,825.9	9,944.1	10,063.1
Percentage of total population	69.81	69.79	69.78

(a) Statistical division (b) Statistical district. (c) Provisional estimate of statistical district.

While there has been population growth in all States this century, there has been a noticeably higher rate of growth in Western Australia, the Australian Capital Territory and the Northern Territory. Tasmania and South Australia have had the least growth.

POPULATION OF STATES AND TERRITORIES

('000 persons)

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.(a)</i>	<i>Aust.</i>
3 April 1881 . . .	749.8	861.6	213.5	276.4	29.7	115.7	3.5	..	2,250.2
5 April 1891 . . .	1,127.1	1,140.1	393.7	315.5	49.8	146.7	4.9	..	3,177.8
31 March 1901 . . .	1,354.8	1,201.1	498.1	358.3	184.1	172.5	4.8	..	3,773.8
3 April 1911 . . .	1,646.7	1,315.6	605.8	408.6	282.1	191.2	3.3	1.7	4,455.0
4 April 1921 . . .	2,100.4	1,531.3	756.0	495.2	332.7	213.8	3.9	2.6	5,435.7
30 June 1933 . . .	2,600.8	1,820.3	947.5	580.9	438.9	227.6	4.9	8.9	6,629.8
30 June 1947 . . .	2,984.8	2,054.7	1,106.4	646.1	502.5	257.1	10.9	16.9	7,579.4
30 June 1954 . . .	3,423.5	2,452.3	1,318.3	797.1	639.8	308.8	16.5	30.3	8,986.5
30 June 1961 (b) . .	3,918.5	2,930.4	1,527.5	971.5	746.8	350.3	44.5	58.8	10,548.3
30 June 1966 . . .	4,237.9	3,220.2	1,674.3	1,095.0	848.1	371.4	56.5	96.0	11,599.5
30 June—									
1971	4,679.4	3,520.4	1,881.4	1,185.3	1,043.1	390.2	91.9	145.6	12,937.2
1972	4,746.9	3,577.4	1,932.5	1,202.4	1,070.9	392.2	96.6	158.0	13,177.0
1973	4,793.4	3,628.4	1,987.3	1,217.9	1,089.8	395.7	99.7	168.2	13,380.4
1974	4,839.4	3,676.8	2,046.1	1,236.2	1,117.4	399.3	104.4	179.6	13,599.1
1975	4,884.5	3,719.1	2,084.0	1,252.1	1,146.7	404.7	89.4	190.9	13,771.4
1976	4,914.3	3,746.0	2,111.7	1,261.6	1,169.8	407.4	101.4	203.3	13,915.5
1977	4,956.7	3,782.3	2,136.8	1,276.8	1,197.1	410.6	105.5	208.2	14,074.1
1978	5,011.8	3,818.4	2,166.7	1,287.6	1,222.3	413.7	112.5	215.6	14,248.6
1979	5,078.5	3,853.5	2,197.4	1,293.8	1,242.8	417.7	115.9	222.3	14,421.9
Percentage of total population in 1979	35.21	26.72	15.24	8.97	8.62	2.90	0.80	1.54	100.00

(a) Part of New South Wales before 1911. (b) Figures before 1961 exclude Aborigines, later figures do not. The estimates from June 1971 for each State and Territory are made from the 1971 census results, with augmented adjustments for under-enumeration to make the total balance with the estimates for Australia made retrospectively from 1976.

General characteristics of the population

The age composition of the population is presented in Plate 28, page 89 in the form of a pyramid. The decrease in the number of births in the 1970s can be seen in the undercutting of the pyramid for ages 7 and under. The post-war 'baby boom' is shown in the bulge at age 32.

ESTIMATED AGE DISTRIBUTION: 30 JUNE 1979

('000)

<i>Age group (years)</i>	<i>Males</i>	<i>Females</i>	<i>Persons</i>
0-4	585.8	556.6	1,142.4
5-9	673.8	642.8	1,316.6
10-14	638.6	603.7	1,242.3
15-19	668.9	632.3	1,301.2
20-24	621.9	604.5	1,226.4
25-29	589.0	582.9	1,171.9
30-34	579.8	555.6	1,135.5
35-39	468.9	443.1	912.0
40-44	407.9	387.3	795.2
45-49	387.3	364.3	751.6
50-54	396.6	377.4	774.0
55-59	358.2	361.3	719.5
60-64	276.0	297.7	573.7
65-69	235.8	273.5	509.4
70+	335.2	515.1	850.3
All ages	7,223.9	7,198.1	14,421.9

Although the numbers of men and women aged 15 and over are nearly equal, there are more single men than single women and there are more widows than widowers. The first phenomenon is attributable to women generally marrying about 2 years younger than men, and the second to their greater longevity. In 1976, 29 per cent of the male population aged 15 and over was single, 64 per cent married (excluding 2.2 per cent married but recorded as permanently separated), 2.7 per cent widowed and 2 per cent divorced. For females the figures were 21 per cent single, 62.5 per cent married (excluding 2.7 per cent married but permanently separated), 11 per cent widowed and 2.5 per cent divorced.

MARITAL STATUS OF THE POPULATION 1954 TO 1976

(Per cent)

Census	Never married		Married	Married but permanently separated	Widowed	Divorced	Total
	Under 15	15 and over					
MALES							
1954	28.9	21.2	45.4	1.3	2.5	0.7	100.0
1961	30.6	20.7	44.5	1.3	2.2	0.7	100.0
1966	29.9	21.4	44.5	1.3	2.1	0.7	100.0
1971	29.3	20.7	45.6	1.3	2.0	1.0	100.0
1976	28.0	21.0	46.1	1.6	1.9	1.4	100.0
FEMALES							
1954	28.3	15.4	46.1	1.5	7.9	0.8	100.0
1961	29.8	14.8	45.1	1.5	7.9	0.8	100.0
1966	28.9	15.7	44.9	1.5	8.1	0.9	100.0
1971	28.2	14.9	46.1	1.5	8.2	1.1	100.0
1976	26.6	15.6	45.9	2.0	8.1	1.8	100.0

In 1976, people born overseas made up 20 per cent of the population, about the same as in 1971 but an increase on earlier censuses. The proportion of males who were overseas-born has been higher than for females: in 1976, 21 per cent as compared with 19 per cent for females.

AUSTRALIAN AND OVERSEAS-BORN POPULATION

(Per cent)

Census	Australian born			Overseas born		
	Males	Females	Persons	Males	Females	Persons
1954	83.9	85.6	85.7	16.1	14.4	14.3
1961	81.4	84.8	83.1	18.6	15.2	16.9
1966	80.2	82.9	81.6	19.8	17.0	18.4
1971	78.5	81.0	79.8	21.5	19.0	20.2
1976	78.9	80.8	79.8	21.1	19.2	20.2

The proportion of the population of working age (taken as 15 to 64) increased between 1971 and 1979, particularly among those aged 15-44 who, as a proportion of the total population, increased from 42.9 per cent to 45.4 per cent.

The number of persons in the population aged under 15 made up a reduced percentage of the total population: 25.7 per cent in 1979 as compared with 29.0 per cent in 1971. The numbers aged 65 and over, i.e. the age of retirement increased from 8.4 per cent to 9.4 per cent.

POPULATION IN AGE GROUPS: 1966 TO 1979

30 June	Number ('000)				Per cent			
	Under 15	15-44	45-64	65 and over	Under 15	15-44	45-64	65 and over
MALES								
1966	1,748.2	2,517.5	1,161.8	414.1	29.9	43.1	19.9	7.1
1971	1,920.9	2,844.7	1,284.1	456.5	29.5	43.7	19.7	7.0
1976	1,932.7	3,133.3	1,394.9	518.4	27.7	44.9	20.0	7.4
1977	1,920.2	3,199.1	1,401.5	534.6	27.2	45.3	19.9	7.6
1978	1,910.1	3,266.3	1,410.8	552.0	26.8	45.8	19.8	7.7
1979	1,898.2	3,336.5	1,418.2	571.1	26.3	46.2	19.6	7.9
FEMALES								
1966	1,665.0	2,375.9	1,142.0	575.0	28.9	41.3	19.8	10.0
1971	1,827.6	2,701.3	1,272.8	629.3	28.4	42.0	19.8	9.8
1976	1,834.1	3,002.1	1,382.2	717.7	26.4	43.3	19.9	10.4
1977	1,822.9	3,069.3	1,387.9	738.6	26.0	43.7	19.8	10.5
1978	1,813.3	3,138.2	1,395.8	762.1	25.5	44.1	19.6	10.7
1979	1,803.1	3,205.8	1,400.7	788.6	25.0	44.5	19.5	11.0
PERSONS								
1966	3,413.2	4,893.4	2,303.8	989.1	29.4	42.2	19.9	8.5
1971	3,748.5	5,546.0	2,556.9	1,085.9	29.0	42.9	19.8	8.4
1976	3,766.8	6,135.4	2,777.1	1,236.1	27.1	44.1	20.0	8.9
1977	3,743.1	6,268.3	2,789.4	1,273.3	26.6	44.5	19.8	9.0
1978	3,723.4	6,404.5	2,806.6	1,314.1	26.1	45.0	19.7	9.2
1979	3,701.3	6,542.2	2,818.8	1,359.7	25.7	45.4	19.5	9.4

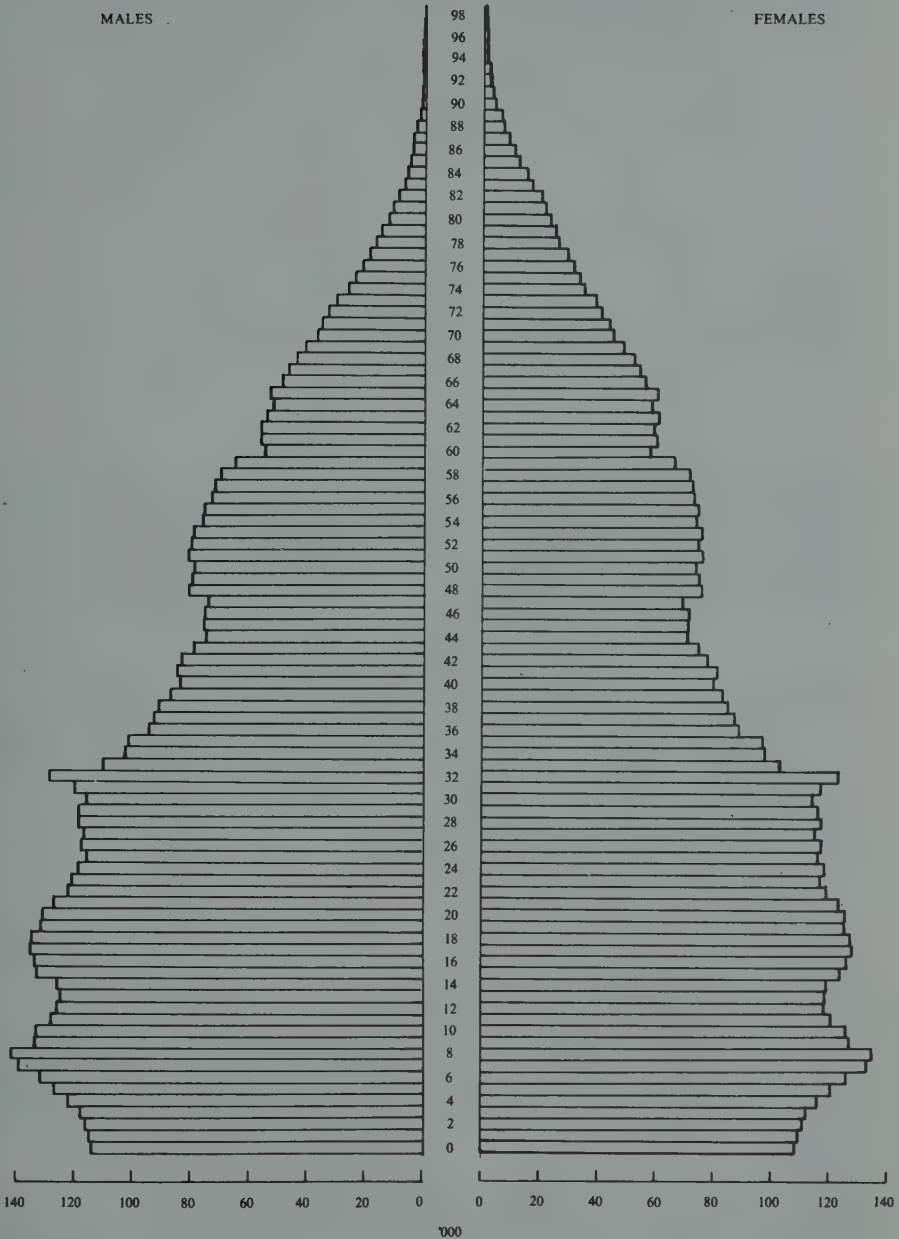
Note: Full-blood Aborigines are included from 1966.

Year of birth

AGE

MALES

FEMALES



POPULATION OF AUSTRALIA: AGE LAST BIRTHDAY, BY SEX: 30 JUNE 1979

The masculinity of the population is expressed as the number of males per 100 females. This ratio is influenced by the age structure: masculinity at birth is about 105.5, but higher male mortality gradually erodes the difference so that the numbers of males and females would tend to be about the same soon after age 50 in the absence of migration, and the masculinity ratio progressively declines thereafter. The overall masculinity of the population has been declining and in 1979 was 100.36.

MASCULINITY IN EACH AGE GROUP (males per hundred females)(a)

30 June	Age in years				Total
	0-14	15-44	45-64	65 and over	
1966	105.00	105.96	101.73	72.02	101.45
1971	104.85	105.87	100.40	72.17	101.17
1976	105.38	104.37	100.92	72.24	100.62
1977	105.34	104.22	100.99	72.35	100.52
1978	105.34	104.08	101.07	72.43	100.42
1979	105.27	104.08	101.25	72.42	100.36

(a) Based on census results adjusted for mis-statement of age and, for 1971 and 1976, for under-enumeration.

The Aboriginal population

A brief account was given of the Australian Aboriginal population, its origin and its numbers as estimated from time to time in Year Book No. 17, pages 951-61. A special article by A. R. Radcliffe Brown dealing with the estimated number and distribution of the Aboriginal population at the date of the first settlement of European people on the continent appeared in Year Book No. 23, pages 687-96. That article arrived at an estimated minimum Aboriginal population of 251,000, based on the evidence available at the time; however, estimates of upwards of 300,000 persons have since been considered more likely.

The task of collecting data on the Aboriginal population is difficult, raising problems of coverage, definition and reporting. For this reason, statistics, even of the total Aboriginal population, should be treated with caution. This applies particularly to comparison of the changes in numbers from one census to another which can be affected by social attitudes and by changes made in the nature of the question in an attempt to improve coverage and reporting. For the censuses of 1971 and 1976 the question was designed to distinguish those persons who identify themselves as Aboriginals or Torres Strait Islanders.

ABORIGINALS AND TORRES STRAIT ISLANDERS (a)
(Persons)

State	30 June 1971	30 June 1976
New South Wales	23,873	40,450
Victoria	6,371	14,760
Queensland	31,922	41,345
South Australia	7,299	10,714
Western Australia	22,181	26,126
Tasmania	671	2,942
Northern Territory	23,381	23,751
Australian Capital Territory	255	827
Total Australia	115,953	160,915

(a) Definition of Aboriginals and Torres Strait Islanders based on the race to which persons of mixed origin consider themselves to belong and is not comparable with previous data.

Compared with the rest of the Australian population, Aboriginal women have very high rates of fertility and Aboriginal people at all ages suffer high rates of mortality. At the time of the 1971 census, the average issue of married Aboriginal women was 4.1 children (excluding still-born children), but had declined to 3.3 by 1976. Acknowledging the probability of high reporting error among this group, this represents a total fertility rate still well above that of the population as a whole. The expectation of life at birth for Aboriginal Australians may be as low as 50 years, compared with 73 years for the rest of the population.

Internal migration

The five-yearly censuses and annual internal migration surveys (conducted in conjunction with the labour-force survey) are important sources of information for internal migration. Estimates of inter-state migration are also made from address changes notified to the Electoral Office and the Department of Social Security. It is not possible to reconcile these three data sources. Note especially that the survey results given below exclude the movement of children under 15.

The 1971 census set out to measure internal migration by asking respondents where they usually lived and where they had lived five years before. An analysis of the data is given in the Census Monograph *Internal Migration in Australia*. A question was added to the 1976 census which asked where the respondents had lived one year before.

Internal migration surveys were conducted in respect of each of the twelve-month periods ended 30 April 1970 to 1974 and for the twelve-month periods ended 31 December 1974, 31 January 1977, 30 September 1978, 30 June 1979 and 30 June 1980. In these surveys, the usual place of residence of respondents at the beginning and end of the reference period was ascertained. Estimates were made of the numbers and characteristics of movers and non-movers. (Because the estimates are based on information from occupants of a small sample of dwellings, the imprecision due to sampling variability should be kept in mind. Standard errors of estimates are published in the detailed bulletins providing the survey results.)

Internal migration

The internal migration surveys show that about 14 to 17 per cent of all persons aged 15 and over change their residence within a twelve-month period. Of those who change their residence, about 50 per cent remain within the same capital city and together with another 40 per cent, within the same State or Territory; slightly over 10 per cent are interstate movements.

While the pattern of migration has varied over the years, the age and sex composition of those who changed residence has been rather consistent: the masculinity ratio remains around 50 to 51 per cent, and movers show a concentration in the ages 20 to 34 (58 per cent of all movers in the twelve-month period ended 30 June 1979).

INTERNAL MIGRATION(a)
(^{'000 persons})

Year ended	Within State capitals	Into State capitals	Out of State capitals	Net capital city gain	Moved to another State or Territory	Total movers	Did not move	Total
30 April—								
1972	714.5	116.0	103.3	12.7	157.2	1,393.1	7,561.5	8,954.6
1973	815.3	118.8	128.8	-10.0	170.3	1,584.2	7,479.4	9,063.6
1974	810.3	118.0	128.3	-10.3	170.4	1,592.6	7,645.3	9,237.9
31 December—								
1974	682.5	97.3	105.9	-8.6	151.3	1,342.9	8,044.6	9,387.5
31 January—								
1977	816.3	113.1	101.6	11.5	161.9	1,581.1	8,161.6	9,742.7
30 September—								
1978	827.4	120.8	123.4	-2.6	193.5	1,684.1	8,522.1	10,206.2
30 June—								
1979	854.4	166.5	187.2	-20.8	179.2	1,653.1	8,672.5	10,325.6

(a) Non-institutionalised civilians aged 15 years and over at the time of the survey who were resident in Australia at the beginning and end of the survey year. Changes of residence away from and back to the same address during the survey year are not counted. State capital cities exclude Canberra and Darwin.

Interstate migration

A general impression of interstate migration during 1971-76 can be obtained from 1976 Census data. There were 569,500 persons who, at the 1976 Census, reported a different State or Territory of residence in 1971 from that in 1976. This is slightly more than 4 per cent of all persons who reported a residential State or Territory for both dates. The figures are understated in the sense that a person who moved out of and back to a State in the period is not counted, and because of the exclusion of persons who failed to answer either or both questions and those who were missed from the census altogether. The net effect of interstate migration on the State populations is less because arrivals in a State are offset to a greater or lesser extent by departures.

CENSUS 1976: POPULATION BY STATE, TERRITORY ETC. IN 1976 AND 1971 (a)
(^{'000 persons})

<i>State, Territory, etc. of residence in 1976</i>	<i>Resident in State, Territory, etc. in 1976 as shown and—</i>				
	<i>Residential distribution at 30 June 1976</i>	<i>Reporting a place of residence at 30 June 1971 in another State or Territory</i>	<i>Reporting an overseas place of residence at 30 June 1971</i>	<i>Failing to report a 1971 place of residence</i>	<i>Aged under 5, ie not yet born on 30 June 1971</i>
New South Wales	4,691.5	123.6	190.7	78.1	409.7
Victoria	3,617.9	99.9	136.9	63.0	315.7
Queensland	1,967.3	141.2	65.7	37.4	183.6
South Australia	1,232.5	56.1	47.6	15.9	100.4
Western Australia	1,121.4	60.6	69.2	20.7	103.8
Tasmania	400.4	18.9	7.9	6.2	36.0
Northern Territory	87.2	21.0	6.0	2.8	11.5
Australian Capital Territory	195.8	48.3	13.6	3.0	22.0
Overseas	33.5	(b)		31.2	
Place of residence not stated	200.9	(b)		178.9	
Total	13,548.4	569.5	537.5	437.3	1,182.7

(a) The figures are not adjusted for underenumeration. (b) There were 2,300 persons enumerated who gave overseas as their place of residence in 1976, but a State or Territory in 1971. The number who failed to provide a State or Territory of residence for 1976 but gave such a residence for 1971 was 22,000.

The following table indicates the origin and destination of the 1971-76 interstate movers identified by the Census. Movements between New South Wales and Victoria accounted for nearly 16 per cent of all moves, about the same numbers in each direction. Other substantial moves were from New South Wales to Queensland (13 per cent) (about twice as large as moves in the opposite direction), from Victoria to Queensland (6.6 per cent), and from New South Wales to the Australian Capital Territory (5.3 per cent). Generally, moves from New South Wales exceed reverse moves from all States. Net losses for Victoria were particularly high to Western Australia, while Queensland had significant net gains from New South Wales and Victoria. Tasmania lost population to Queensland but gained from Victoria. The Northern Territory figures are affected by cyclone 'Tracy', the substantial population gains from all States during the whole of the intercensal period being negated by the sudden population flight after the cyclone.

**STATE OR TERRITORY OF RESIDENCE AT JUNE 1971 AND 1976 BY ORIGIN AND DESTINATION
OF PERSONS WHO MOVED INTERSTATE BETWEEN JUNE 1971 AND 1976(a)**

(per cent of all interstate movers)

<i>State or Territory of residence in 1971</i>	<i>State or Territory of residence in 1976</i>								<i>Total</i>
	<i>N.S.W</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	
New South Wales	—	7.72	13.14	3.34	3.39	0.91	0.92	5.28	34.70
Victoria	7.96	—	6.60	3.18	3.26	1.37	0.64	1.33	24.34
Queensland	6.24	2.90	—	0.89	1.39	0.40	0.76	0.72	13.30
South Australia	2.00	2.53	1.33	—	1.36	0.27	0.81	0.47	8.76
Western Australia	2.02	1.86	1.34	1.00	—	0.21	0.44	0.32	7.18
Tasmania	0.80	1.45	0.70	0.35	0.51	—	0.07	0.15	4.03
Northern Territory	0.63	0.51	1.07	0.83	0.50	0.11	—	0.21	3.85
Australian Capital Territory	2.06	0.59	0.61	0.25	0.23	0.06	0.06	—	3.85
Total	21.70	17.54	24.79	9.85	10.63	3.32	3.69	8.48	100.00
Net gain 1971-76 (^{'000})	-74.0	-38.7	65.4	6.2	19.6	-4.0	-0.9	26.4	—

(a) The figures are based on the number of persons who, in the 1976 Census, provided a State or Territory as their place of residence in 1971 and 1976 and whose State or Territory of residence differed at the two dates.

VITAL STATISTICS

Registration of vital events, i.e. births, deaths and marriages, has been compulsory throughout Australia since 1856. The total number of these occurrences is available for each year since the 1860s and more detailed information since the 1910s. The number of divorces has been published since 1891, but other details have been published on a consistent basis only since the 1950s.

Crude rates are the number of vital events per thousand of the mean population of a particular year. *Natural increase* is the excess of births over deaths. In 1978, births numbered 224,181, deaths 108,425 and the natural increase was 115,756. The rate of natural increase for that year was 8.12 per thousand of the mean population made up of crude birth rate 15.73 and crude death rate 7.61. This represented a considerable decline since 1955–60 when the birth rate was 22.59, the death rate 8.78 and natural increase 13.81.

BIRTHS, DEATHS AND NATURAL INCREASE

Period	Number			Crude rates per 1,000 of mean population		
	Births	Deaths	Natural increase	Births	Deaths	Natural increase
Annual averages—						
1956–60	222,459	86,488	135,971	22.59	8.78	13.81
1961–65	232,952	95,465	137,487	21.34	8.75	12.60
1966–70	240,325	107,263	133,062	19.95	8.90	11.05
1971–75	253,438	111,216	142,222	18.99	8.32	10.67
Annual totals—						
1974	245,177	115,833	129,344	18.03	8.52	9.51
1975	233,012	109,021	123,991	16.92	7.91	9.00
1976	227,810	112,662	115,148	16.37	8.10	8.27
1977	226,291	108,790	117,501	16.08	7.73	8.35
1978	224,181	108,425	115,756	15.73	7.61	8.12
1979	223,132	106,571	116,561	15.47	7.39	8.08

There were 104,396 marriages in 1979, a crude rate of 7.2. Divorces numbered 38,021 bringing the crude divorce rate to 2.6, which was a reduction from a peak of 4.6 in 1976.

MARRIAGE AND DIVORCE

Period	Number		Crude rates per 1,000 of mean population	
	Marriages	Divorces	Marriage	Divorce
Annual averages—				
1956–60	73,854	6,788	7.5	0.7
1961–65	83,250	7,611	7.6	0.7
1966–70	106,188	10,738	8.8	0.9
1971–75	111,803	17,405	8.4	1.3
Annual totals—				
1974	110,673	17,744	8.1	1.3
1975	103,973	24,307	7.5	1.8
1976	109,973	63,267	7.9	4.6
1977	104,918	45,175	7.5	3.2
1978	102,958	40,633	7.2	2.9
1979	104,396	38,021	p7.2	p2.6

Births and fertility

Special interest attaches to fertility as an element of population change. Fertility has had considerable impact on the population structure. Extensive studies have revealed patterns of fertility which justify attempts to predict the numbers of future births. In 1971, there was a record 276,362 births but the number of births has declined progressively in each year since. In 1979, there were 223,132 births.

Live births

Extensive statistics of live births are available since the 1910s. These include information about sex of children, the incidence of multiple births, marital status of the parents, the number of previous issue to the mother's existing marriage, the duration of marriage, the age of parents and their country of birth.

With rare exceptions, statistics indicate an excess of male over female births. In 1979, there were 114,616 male births and 108,516 female births, a masculinity ratio of 105.62.

The proportion of children born to parents not married to each other at the time of birth has been increasing. In 1951-55, 3.97 per cent of births were ex-nuptial. In 1979, there were 26,111 ex-nuptial births, 11.70 per cent of the total.

LIVE BIRTHS: SEX AND NUPTIALITY

	Live births				Ex-nuptial live births				Per 1,000 of mean popula- tion
Period	Males	Females	Persons	Masculi- nity	Persons	Masculi- nity	Per- centage of total		
Annual averages—									
1956-60	114,288	108,171	222,459	105.65	10,027	104.49	4.51	1.02	
1961-65	119,777	113,175	232,952	105.83	13,798	106.88	5.92	1.26	
1966-70	123,326	116,999	240,325	105.41	18,937	105.11	7.88	1.57	
1971-75	130,047	123,389	253,436	105.39	24,516	106.71	9.69	1.88	
Annual totals—									
1974	126,295	118,882	245,177	106.24	23,408	108.79	9.55	1.72	
1975	119,850	113,162	233,012	105.91	23,705	107.83	10.17	1.72	
1976	116,838	110,972	227,810	105.29	23,064	108.20	10.12	1.66	
1977	116,551	109,740	226,291	106.21	23,314	106.03	10.30	1.66	
1978	114,964	109,217	224,181	105.26	24,744	106.73	11.04	1.74	
1979	114,616	108,516	223,132	105.62	26,111	103.94	11.70	p1.81	

About 1 per cent of confinements result in twin births and about one in 10,000 in triplets. Quadruplets occur about once in 250,000 confinements. The likelihood of multiple confinement is about 0.9 per cent for the first nuptial confinement, rising to about 1 per cent at the second confinement and to as much as 1.5 per cent at the fourth and subsequent confinements. The incidence of multiple births also rises with age of mother.

LIVE BIRTHS AND CONFINEMENTS: PLURALITY

Period	Confinements				Total
	Single	Twin	Triplet	Other multiple	
Annual averages—					
1956-60	217,397	2,542	26	—	219,965
1961-65	227,948	2,509	26	—	230,483
1966-70	235,132	2,481	25	2	237,640
1971-75	248,459	2,488	25	1	250,973
Annual totals—					
1974	240,437	2,367	23	2	242,829
1975	228,525	2,223	28	1	230,777
1976	223,264	2,281	19	1	225,565
1977	222,223	2,020	23	3	224,269
1978	219,780	2,181	37	1	221,999
1979	218,774	2,165	28	1	220,968

Since the 1950s, there has been a decline in the proportion, and since 1971 in the number, of women having three or more children to their marriage. During the 1950s and early 1960s the median age of mother at first nuptial birth declined, but in recent years it has risen. In 1979, median age at first birth was 25.07 years.

NUPTIAL CONFINEMENTS: BIRTH ORDER

	Birth order						7 and over	Total nuptial (a)	Ex- nuptial	Confinement- s
Period	1	2	3	4	5	6				
NUMBER OF CONFINEMENTS										
Annual averages—										
1956-60	65,695	57,532	40,920	22,968	11,299	5,558	6,075	210,047	9,918	219,965
1961-65	69,281	57,971	40,818	23,612	12,125	6,160	6,862	216,829	13,655	230,483
1966-70	80,999	62,930	37,446	18,899	8,961	4,489	5,213	218,937	18,707	237,644
1971-75	88,120	74,641	36,914	15,216	6,006	2,805	2,959	226,674	24,299	250,973
Annual totals—										
1974	86,248	75,996	34,810	13,362	4,784	2,195	2,213	219,629	23,200	242,829
1975	81,543	73,456	33,036	11,653	3,979	1,873	1,699	207,267	23,510	230,777
1976	78,086	73,338	33,505	11,130	3,584	1,497	1,534	202,692	22,873	225,565
1977	78,588	70,859	34,596	11,032	3,438	1,349	1,263	201,135	23,134	224,269
1978	76,999	68,759	34,783	11,248	3,307	1,224	1,134	197,461	24,538	221,999
1979	77,032	67,250	34,387	11,100	3,124	1,140	1,050	195,084	25,884	220,968
MEDIAN AGE OF MOTHER										
Annual averages—										
1956-60	23.54	26.43	28.86	30.99	32.66	33.95	35.03	27.18	24.23	27.11
1961-65	23.12	25.72	28.35	30.64	32.51	33.88	35.02	26.54	22.54	26.38
1966-70	23.14	25.63	28.21	30.54	32.53	34.06	35.42	25.92	21.37	25.67
1971-75	23.60	25.96	28.21	30.55	32.53	34.09	36.84	25.87	21.12	25.58
Annual totals—										
1974	23.77	26.09	28.23	30.52	32.67	34.12	36.94	25.96	21.10	25.66
1975	23.95	26.25	28.32	30.57	32.67	34.30	36.96	26.07	21.29	25.76
1976	24.23	26.22	28.45	30.40	32.38	34.30	37.32	26.22	21.60	25.91
1977	24.59	26.39	28.64	30.53	32.41	34.54	37.08	26.46	21.51	26.13
1978	24.85	26.56	28.75	30.48	32.46	33.98	37.99	26.65	21.55	26.28
1979	25.07	26.82	28.89	30.66	32.44	34.23	36.83	26.86	21.62	26.46

(a) Includes those for whom birth order was not stated.

Since 1971, there has been a decline in the number of confinements occurring in the early years of marriage. The number of confinements to marriages of 10 years duration and longer has been declining since the 1950s.

NUPTIAL CONFINEMENTS: DURATION OF MARRIAGE

	Duration of marriage, completed years										
Period	0	1	2	3	4	5-9	10-14	15 and over	Not stated	Total	
Annual averages—											
1956-60	27,590	24,161	23,475	20,987	18,605	60,449	24,531	10,249	n.a.	210,047	
1961-65	31,046	24,775	24,885	22,237	18,843	58,855	25,149	11,038	n.a.	216,829	
1966-70	31,920	25,903	27,566	25,253	20,831	57,457	20,415	9,100	491	218,937	
1971-75	27,249	25,841	30,072	29,674	25,544	64,690	16,676	6,373	556	226,674	
Annual totals—											
1974	24,238	24,339	29,524	30,133	26,487	64,543	14,546	5,257	562	219,629	
1975	20,890	23,327	26,657	28,089	25,725	64,302	13,519	4,312	446	207,267	
1976	18,774	21,231	25,706	26,555	25,359	67,668	13,132	3,822	441	202,692	
1977	18,757	20,583	23,507	25,774	24,269	70,369	13,960	3,560	356	201,135	
1978	18,269	20,205	21,919	23,830	23,745	71,459	14,322	3,327	385	197,461	
1979	18,355	19,484	21,716	22,117	22,156	72,085	15,417	3,233	521	195,084	

Fertility

The general fertility rate, which is the number of births to women of any age per thousand females aged 15-44, is the simplest measure of fertility. The rates have been calculated for the three years' births around each census from 1881 and provide a consistent series for nuptial and ex-nuptial fertility as well as for total fertility.

The rates show a substantial decline in fertility over the total period with a low point in 1932-34 and a minor recovery, peaking in 1960-62. The 1975-77 general rate of 78 births per thousand females aged 15-44 was only 46 per cent of the rate in 1880-82. The decline has been greater among married women, the rate for 1975-77 of 107 per thousand being only 33 per cent of the 1880-82 rate. Ex-nuptial fertility in 1975-77 was 23 per thousand, 64 per cent above 1880-82.

FERTILITY RATES: AUSTRALIA

Period	Index numbers (base year 1880-82=100)			Index numbers (base year 1880-82=100)		
	Births per 1,000 women aged 15-44 years	Nuptial births per 1,000 married women aged 15-44 years	Ex-nuptial births per 1,000 single, widowed or divorced women aged 15-44 years	Births per 1,000 women aged 15-44 years	Nuptial births per 1,000 married women aged 15-44 years	Ex-nuptial births per 1,000 single, widowed or divorced women aged 15-44 years
1880-82	170	321	14	100	100	100
1890-92	159	332	16	94	103	114
1900-02	117	235	13	69	73	93
1910-12	117	236	13	69	74	93
1920-22	107	197	11	63	61	79
1932-34	71	131	7	42	41	50
1946-48	104	160	11	61	50	79
1953-55	109	149	14	64	46	100
1960-62	112	154	18	66	48	129
1965-67	95	132	21	56	41	150
1970-72	100	134	29	59	42	207
1975-77	78	107	23	46	33	164

Age specific birth rates provide a measure of changing patterns of fertility within the fertile ages. The sum of these rates, the *total fertility rate*, is a more useful measure of change than the general fertility rate since it takes into account the changing age structure of the population within the fertile ages. The total fertility rate represents the number of children a woman would bear in her lifetime if she experienced the rates of the year shown. Fertility is declining at all ages. The decline started first with the older ages in the 1950s, and spread progressively to the younger ages. Fertility for ages 15-19 years has been declining in the 1970s. The total fertility rate, which rose in the 1950s, has since declined.

AGE-SPECIFIC BIRTH RATES(a)

Period	Age group (years)							Total fertility (b)
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
1951-55	39.54	192.81	192.97	123.51	65.05	20.50	1.53	3.180
1956-60	44.20	216.42	211.47	126.06	63.91	18.96	1.45	3.412
1961-65	46.50	203.95	207.15	122.38	59.18	17.54	1.19	3.289
1966-70	49.39	172.59	187.64	103.03	46.84	12.89	1.00	2.866
1971-75	48.02	154.84	170.63	85.69	34.25	8.65	0.59	2.513
1974	44.42	146.07	161.27	79.25	29.51	7.30	0.46	2.342
1975	40.37	134.44	150.95	74.96	26.40	6.17	0.37	2.168
1976	35.55	129.22	147.34	73.06	24.28	5.57	0.41	2.077
1977	32.59	123.06	147.23	74.84	24.01	5.06	0.30	2.035
1978	30.38	116.87	145.93	74.22	23.63	4.49	0.25	1.979
1979	28.97	110.27	144.54	74.73	23.67	4.56	0.33	1.935

(a) Number of births per 1,000 women in each age group. Excludes particulars of full-blood Aborigines before 1966. (b) The sum of the age specific rates multiplied by 5 and divided by 1,000. This is the number of children a woman would bear in her lifetime if she experienced the rates of the year shown.

The gross reproduction rate is derived from total fertility and the ratio of female to total births. It indicates the number of female children who would be born on average to women supposing the rates from which it was calculated were to apply throughout the reproductive period. It is an indication of the extent to which the population is reproducing itself except that it does not allow for females who fail to survive to the end of the childbearing period. *The net reproduction rate* allows for such mortality. It is obtained by multiplying the age-specific rates by the survivor proportions in the corresponding age group of the stationary or life table population. Mortality in childhood and young adulthood is now so low that there is little difference between current gross and net reproduction rates.

GROSS AND NET REPRODUCTION RATES

Period	Gross reproduction rate	Net reproduction rate	Life tables used
1954	1.559	1.499	1953-55
1961	1.728	1.672	1960-62
1966	1.400	1.357	1965-67
1971	1.427	1.386	1970-72
1976	1.012	0.988	1976
1977	0.987	0.965	1977
1978	0.964	0.944	1978

Fertility of Australian Marriages. This series is designed to show the pattern of fertility within marriage. Births in each year and at each duration of marriage to parents who were married in Australia are related (per thousand) to Australian marriages of the relevant number of years earlier.

The sum of these rates for all durations is *the index of current marriage fertility* and indicates the number of children marriages would produce according to the recorded fertility of that year.

Fertility in the first two to three years of marriage has fallen very substantially. For instance, fertility in the first year of marriage fell from 369 births per thousand marriages in 1956-60 to 167 in 1978. There has also been a substantial decline for marriages of ten years duration or longer from 292 per thousand at durations 10-14 years in 1956-60 to 124 per thousand in 1978. At longer durations the fall is proportionally greater still. There has been no rise at medium durations to compensate for the decline early and late in marriage. The index of current marriage fertility declined from the equivalent of 2.7 children per marriage in 1956-60 to 1.7 in 1978.

The annual rates accumulated according to year of marriage show the experience of successive marriage cohorts. These marriage generation tables demonstrate an increasing delay by couples in having their first child. The marriages of 1955-56 had 1,262 children per thousand marriages by the end of the fourth year of marriage, compared with 1,314 for those married in 1960-61, and 784 for those married in 1974-75.

FERTILITY OF AUSTRALIAN MARRIAGES: ANNUAL RATES

Births occurring in—	Duration of marriage (years)										Total
	Under 1	1	2	3	Total 4	under 5	5-9	10-14	15-19	20 and over	
Annual averages—											
1956-60	369	317	309	277	243	1,515	751	292	101	26	2,685
1961-65	377	304	311	281	239	1,512	741	293	100	22	2,668
1966-70	302	248	278	265	227	1,320	663	234	79	17	2,313
1971-75	232	211	248	249	219	1,159	606	178	54	14	2,011
Annual rates—											
1973	228	201	240	246	214	1,129	581	170	54	12	1,946
1974	206	202	240	242	215	1,105	572	152	45	9	1,883
1975	185	192	222	228	205	1,032	544	135	37	9	1,757
1976	172	185	214	222	206	999	555	126	32	7	1,719
1977	163	182	206	214	201	967	567	129	30	6	1,699
1978	167	170	193	207	195	933	569	124	27	6	1,659

FERTILITY OF AUSTRALIAN MARRIAGES(a)

Marriages of year—	Completed duration of marriage (years)						
	1	2	3	4	5	10	15
1955-56	352	674	983	1,262	1,511	2,262	2,497
1960-61	403	721	1,039	1,314	1,536	2,194	2,379
1965-66	324	575	855	1,125	1,356	1,961	..
1970-71	282	502	742	984	1,189	..	..
1971-72	257	458	698	926	1,137	..	..
1972-73	228	430	652	874	1,075	..	..
1973-74	206	398	512	827	1,023	..	..
1974-75	185	370	577	784	..	..	..
1975-76	172	354	547	..	..	..	..
1976-77	163	333	..	..	..	..	..
1977-78	167	..	..	..	..	..	..

(a) Cumulated number of births per thousand marriages.

Birth expectations

Australia-wide surveys of birth expectations of married women were conducted in November 1976 and June 1979 as supplements to the regular quarterly labour force surveys of the Australian Bureau of Statistics. Questions were directed to women under the age of 40 in 1976 and under 45 in 1979. Information was obtained about the birth-date and sex of each child and the number of (additional) children women expected to have and when they expected the next child to be born.

Results from the 1979 survey were similar to those of 1976. The average expected family size in 1979 for married women aged under 40 years was 2.5 children, as in 1976. Including women aged 40-44, who were surveyed in 1979, the average was 2.6 children. As in 1976, older women expected somewhat larger families, aged 35-39, 2.7 children and aged 40-44, 2.9 children. Australian born women had slightly higher expectations, 2.6 children, than overseas born, 2.5. Metropolitan women had lower expectations, 2.5 children, than non-metropolitan, 2.7. Women in the labour force expected to have smaller families, 2.4 children, than those not in the labour force who expected an average of 2.8 children.

MARRIED WOMEN AGED 15-44(a): AVERAGE ISSUE, EXPECTED CHILDREN AND TOTAL EXPECTED FAMILY SIZE, JUNE 1979

Characteristics of women	Married women	Average number of children per married woman		
		Already born	Expected	Total
	(⁰⁰⁰)			
Age group (years)—				
15-19	26.5	0.5	2.0	2.5
20-24	254.4	0.8	1.7	2.4
25-29	403.8	1.6	0.8	2.4
30-34	421.0	2.3	0.2	2.5
35-39	350.3	2.7	0.1	2.7
40-44	312.9	2.9	(b)	2.9
Birthplace—				
Australia	1,291.8	2.1	0.6	2.6
Overseas	477.0	2.0	0.4	2.5
Type of locality—				
Metropolitan	1,093.8	1.9	0.6	2.5
Non-metropolitan	675.1	2.3	0.5	2.7
Labour force status—				
In labour force	915.0	1.8	0.6	2.4
Not in labour force	853.9	2.4	0.4	2.8
Total	1,768.9	2.1	0.5	2.6

(a) Excludes women in institutions and the Australian defence forces, and also women who did not know their birth expectations or who were expecting more children but were uncertain of the number. (b) Small estimates subject to sampling variability too high for most practical uses.

As the following table illustrates, the dominant expectation is for a 2-child family. This is especially so for younger women, under 30, and the recently married, less than 10 years, over 50 per cent of whom expected a completed family of 2 children. Only about 10 per cent expected none or one child.

MARRIED WOMEN AGED 15-44(a): EXPECTED COMPLETED FAMILY SIZE, JUNE 1979
(per cent)

Characteristics of women	Expected completed family size—					Total
	0	1	2	3	4 or more	
Age group (years)—						
15-19	0.9	5.8	53.2	25.7	14.4	100.0
20-24	3.7	4.1	52.4	26.7	13.1	100.0
25-29	3.5	4.6	51.8	28.3	11.7	100.0
30-34	4.0	6.6	45.0	29.5	14.9	100.0
35-39	3.6	6.9	37.8	29.8	22.0	100.0
40-44	5.2	7.3	28.6	29.5	29.5	100.0
Years since first marriage—						
Under 2	5.7	4.9	55.1	23.6	10.7	100.0
2-4	5.7	5.1	53.2	24.8	11.3	100.0
5-9	4.2	6.1	50.9	27.3	11.4	100.0
10-14	3.9	5.9	43.3	31.4	15.5	100.0
15 or more	2.6	6.5	30.2	31.2	29.5	100.0
Total	3.8	6.0	43.4	28.8	17.9	100.0

(a) Excludes women in institutions and the Australian defence forces, and also women who did not know their birth expectations or who were expecting more children but were uncertain of the number.

Expectations of additional children are dependent partly on the sex composition of those children already born to a woman. Among married women in 1979 who had two children of the same sex, 18.4 per cent expected a third child. This compares with 9.1 per cent among those who had a boy and a girl. For younger women aged 15-24 years, these proportions were 52.9 per cent and 20.2 per cent respectively.

Mortality

The number of deaths per year is in excess of 100,000 a year. The increase from previous decades arises from the overall growth of the population, and from the advanced age of an increasing proportion of the population. The crude death rate, which fell from over 12 per 1,000 at the beginning of the century to 7.61 per 1,000 in 1978, can be expected to rise slowly as a result of further ageing of the population, unless there is a more than off-setting drop in age specific death rates.

General mortality

Between 1953-55 and 1960-62 mortality declined in every age-group. Between 1960-62 and 1970-72 there were further declines in most age groups, particularly infant mortality. However, increases in mortality were recorded for males aged 15-24 years. Since 1970-72, there have been further decreases in mortality at most ages.

Mortality is greater for males than for females at every age. It is relatively high in the first year of life (13.70 per 1,000 males and 10.60 per 1,000 females in 1978), very low in childhood and young adulthood, and then rises in middle and old age.

AGE-SPECIFIC DEATH RATES^(a)

Age group (years)	1953-55 (b)	1960-62 (b)	1965-67 (b)	1970-72 (b)	1975-77 (b)	1976	1977	1978
MALES								
Under 1(c)	25.18	22.36	20.85	18.85	15.27	15.15	13.98	13.70
1-4	1.69	1.15	1.08	0.99	0.78	0.76	0.73	0.69
5-9	0.67	0.52	0.45	0.45	0.37	0.37	0.39	0.29
10-14	0.63	0.48	0.46	0.42	0.39	0.40	0.40	0.36
15-19	1.51	1.23	1.33	1.50	1.51	1.50	1.47	1.42
20-24	1.82	1.62	1.67	1.75	1.73	1.68	1.80	1.89
25-29	1.68	1.49	1.48	1.38	1.29	1.21	1.38	1.38
30-34	1.79	1.69	1.64	1.49	1.41	1.39	1.34	1.33
35-39	2.40	2.26	2.45	2.31	1.99	1.97	1.95	1.86
40-44	3.64	3.67	3.82	3.45	3.29	3.35	3.11	3.01
45-49	6.01	5.96	6.14	6.06	5.67	5.58	5.66	5.05
50-54	10.44	10.01	10.45	9.92	9.21	9.17	8.86	8.41
55-59	17.03	16.57	16.96	16.58	14.78	14.97	14.06	13.92
60-64	26.58	26.44	27.59	26.59	23.77	24.31	22.98	22.45
65-69	41.28	41.68	43.66	42.04	37.42	38.19	36.51	35.67
70-74	64.53	63.04	66.84	63.45	57.92	58.82	55.74	53.40
75-79	98.77	94.43	99.77	99.99	88.24	93.79	85.82	87.31
80-84	145.88	141.83	146.95	143.42	135.05	140.40	127.09	122.56
85 and over	248.14	243.69	241.98	230.68	227.86	238.79	216.44	212.38
FEMALES								
Under 1(c)	19.88	17.57	16.35	14.37	11.85	12.44	10.86	10.60
1-4	1.35	1.08	1.14	0.78	0.59	0.54	0.57	0.53
5-9	0.50	0.38	0.34	0.33	0.27	0.27	0.26	0.23
10-14	0.37	0.29	0.27	0.26	0.23	0.24	0.22	0.24
15-19	0.58	0.50	0.54	0.59	0.52	0.47	0.56	0.51
20-24	0.67	0.60	0.63	0.58	0.51	0.50	0.54	0.55
25-29	0.83	0.71	0.72	0.67	0.52	0.52	0.55	0.47
30-34	1.11	0.95	0.98	0.89	0.75	0.75	0.70	0.71
35-39	1.74	1.47	1.54	1.44	1.21	1.19	1.14	1.05
40-44	2.55	2.26	2.31	2.23	1.98	1.94	1.93	1.75
45-49	4.19	3.65	3.86	3.63	3.15	3.13	3.08	2.90
50-54	6.43	5.55	5.87	5.56	4.91	4.93	4.88	4.57
55-59	9.25	8.14	8.67	8.29	7.42	7.43	7.13	7.01
60-64	14.75	13.31	13.56	13.01	11.57	11.61	11.36	11.18
65-69	23.89	21.99	21.94	20.70	18.32	18.66	17.37	16.95
70-74	40.93	37.14	37.47	35.79	30.01	30.19	28.72	28.22
75-79	69.72	63.18	62.37	60.24	51.99	53.91	50.72	48.04
80-84	117.36	105.10	107.93	100.96	89.36	91.54	86.20	80.74
85 and over	213.69	210.20	197.73	187.16	182.26	192.55	177.10	177.19

(a) Number of deaths per 1,000 of population of the same age group and sex. The populations used in the calculation of these rates are based on census populations at 30 June 1961, 1966, 1971 and 1976; and estimates at 30 June for other years. From 1971, the population figures have been adjusted for under-enumeration.

(b) Average annual rate per 1,000 of census population, based on deaths in the three year period, i.e. census year and the years preceding and following it.

(c) Infant deaths per 1,000 live births.

AGE AT DEATH, 1978

Age at death (years)	Number			Per cent		
	Males	Females	Persons	Males	Females	Persons
Under 1	1,575	1,158	2,733	2.61	2.41	2.52
1-4	334	242	576	0.60	0.50	0.53
5-9	197	147	344	0.33	0.31	0.32
10-14	229	143	372	0.38	0.30	0.34
15-19	938	322	1,260	1.56	0.67	1.16
20-24	1,146	325	1,471	1.90	0.68	1.36
25-29	808	274	1,082	1.34	0.57	1.00
30-34	752	382	1,134	1.25	0.79	1.05
35-39	838	448	1,286	1.39	0.93	1.19
40-44	1,203	662	1,865	2.00	1.38	1.72
45-49	1,978	1,065	3,043	3.28	2.21	2.81
50-54	3,337	1,733	5,070	5.54	3.60	4.68
55-59	4,767	2,432	7,199	7.91	5.05	6.64
60-64	6,281	3,387	9,668	10.42	7.04	8.92
65-69	8,109	4,446	12,555	13.45	9.23	11.58
70-74	8,508	5,620	14,128	14.11	11.67	13.03
75-79	8,135	7,008	15,143	13.50	14.56	13.97
80-84	5,715	7,602	13,317	9.48	15.79	12.28
85-89	3,681	6,605	10,286	6.11	13.72	9.49
90-94	1,408	3,134	4,542	2.34	6.51	4.19
95-99	298	894	1,192	0.49	1.86	1.10
100 and over	35	112	147	0.06	0.23	0.14
Not stated	9	3	12	0.01	0.01	0.01
Total	60,281	48,144	108,425	100.00	100.00	100.00

Perinatal mortality

Perinatal deaths comprise foetal deaths (stillbirths) and neonatal deaths (deaths within 28 days after birth). From 1972, statistics of stillbirths have been compiled on the basis of amended legislation in all States which provides for all foetal deaths of at least 20 weeks gestation or 400 grams weight to be registered. Previously, the statistics were based on a minimum of 28 weeks gestation. Neonatal deaths account for about 70 per cent of all deaths occurring within the first year of life.

In 1978, there were 3,954 perinatal deaths registered in Australia, which continued the decline in numbers and rates since 1972, the first year in which perinatal deaths were tabulated uniformly throughout Australia. Of these 3,954 deaths, 2,120 were foetal deaths and 1,834 were neonatal deaths.

The neonatal death rate continued its long decline, falling to 8.2 per 1,000 live births in 1978. The total infant mortality rate fell to 12.2.

INFANT DEATHS

Period	Number			Per 1,000 live births		
	Less than 1 month	1-11 months	Total	Less than 1 month	1-11 months	Total
Annual averages—						
1956-60	3,353	1,330	4,683	15.1	6.0	21.1
1961-65	3,260	1,264	4,525	14.0	5.4	19.4
1966-70	3,141	1,208	4,349	13.1	5.0	18.1
1971-75	2,930	1,185	4,115	11.6	4.7	16.2
Annual totals—						
1973	2,927	1,158	4,085	11.8	4.7	16.5
1974	2,854	1,104	3,958	11.6	4.5	16.1
1975	2,330	995	3,325	10.0	4.3	14.3
1976	2,251	899	3,150	9.9	3.9	13.8
1977	1,966	855	2,821	8.7	3.8	12.5
1978	1,834	899	2,733	8.2	4.0	12.2
Males	1,068	507	1,575	9.3	4.4	13.7
Females	766	392	1,158	7.0	3.6	10.6

STILLBIRTHS

Period	Number	Per 1,000 of all births (still and alive)
Annual average—		
1956-60	3,293	14.6
1961-65	2,946	12.5
1966-70	2,563	10.6
1971-75	2,772	10.8
Annual totals—		
1973(a)	2,924	11.7
1974	2,914	11.8
1975	2,414	10.3
1976	2,403	10.4
1977	2,132	9.3
1978	2,120	9.4

(a) Prior to 1972 based on foetal deaths of minimum 28 weeks of gestation. Since 1972 includes foetal deaths of at least 20 weeks' gestation or 400 gram weight.

Life expectancy

Life tables are measures of life expectancy compiled from the death rates prevailing over a period. They form the basis for the *stationary population* which is the population that would result from a constant number of births each year which had been subject at each age to the life table mortality rates.

Since 1921, official life tables have been calculated from the separate male and female populations as enumerated at the census, and the deaths of the three years around the census. Earlier life tables were compiled for decennial periods 1881-90, 1891-1900 and 1901-10. Life tables have also been prepared in recent years using annual age estimates and the deaths of a particular year.

A key value in life tables is the expectation of life remaining at each age. Expectation of life, particularly at birth, improved at every age in the first half of this century. Since 1953-55 and 1970-72 there was little change in expectation of life. However, since 1970-72 there have been significant improvements, particularly in expectation of life at birth which has increased between 1970-72 and 1978 from 67.8 years to 70.2 for males and from 74.5 years to 77.2 for females.

COMPLETE EXPECTATION OF LIFE AT SELECTED AGES

Period	Expectation of life (a) at									
	Birth		1 year of age		20 years of age		40 years of age		60 years of age	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1901-11 (b)(c)	55.2	58.8	60.0	62.9	44.7	47.5	28.6	31.5	14.4	16.2
1920-22 (b)(c)	59.2	63.3	62.7	66.0	47.0	50.0	30.1	33.1	15.1	17.2
1932-34 (b)(c)	63.5	67.1	65.5	68.7	48.8	51.7	31.1	34.0	15.6	17.7
1946-48 (b)(c)	66.1	70.6	67.3	71.5	49.6	53.5	31.2	34.9	15.4	18.1
1953-55 (b)(c)	67.1	72.8	67.9	73.5	50.1	55.1	31.7	36.0	15.5	18.8
1960-62 (b)(c)	67.9	74.2	68.5	74.5	50.4	56.2	31.8	37.0	15.6	19.5
1965-67 (c)	67.6	74.2	68.1	74.4	50.0	56.0	31.4	36.9	15.3	19.5
1970-72 (c)	67.8	74.5	68.3	74.7	50.2	56.4	31.6	37.2	15.4	19.7
1974 (d)	68.4	75.4	68.6	75.4	50.6	57.0	31.9	37.7	15.7	20.2
1975 (d)	69.2	76.2	69.3	76.1	51.2	57.6	32.6	38.4	16.3	20.8
1976 (d)	69.3	76.3	69.4	76.2	51.2	57.7	32.5	38.4	16.1	20.7
1977 (d)	69.9	76.8	69.9	76.6	51.7	58.1	33.1	38.8	16.6	21.1
1978 (d)	70.2	77.2	70.2	77.0	52.0	58.5	33.4	39.2	16.7	21.4

(a) The average number of additional years a person of the given age and sex might expect to live if the age-specific death rates of the given period continued throughout his/her lifetime. (b) Excludes particulars of full-blood Aborigines prior to 1967. (c) Based on Official Life Tables calculated by the Australian Government Actuary. (d) Based on annual life tables calculated by the Australian Statistician. These tables are based on age estimates revised in the light of the 1976 Census results adjusted for underenumeration and misstatement of ages.

Marriages

The *Australian Marriage Act* 1961 came into operation on 1 September 1963, placing the marriage laws throughout Australia on a uniform basis. Marriages may be celebrated by a minister of religion registered as an authorised celebrant, or by a district registrar or other person authorised by the Attorney-General. The minimum marriageable age is 18 years for males and 16 years for females. A judge or magistrate may, in exceptional circumstances, make an order authorising a male who has attained 16 years or a female who has attained 14 years to marry a person of marriageable age.

In 1979, 76.8 per cent of grooms and 77.5 per cent of brides were marrying for the first time; approximately 3 per cent were widowers and 4 per cent widows; and 20.0 per cent of grooms and 18.7 per cent of brides had been divorced. The proportion of marriages involving divorced persons increased sharply in 1976 and slightly thereafter. This is associated with the larger numbers of divorces granted since the introduction of the *Family Law Act* 1975.

Median age at first marriage declined during the 1950s and 1960s but has risen slightly in recent years. In 1979 it was 24.1 years for males and 21.7 for females. In 1979, 3.9 per cent of grooms and 19.5 per cent of brides married under the age of 20.

MARITAL STATUS AT MARRIAGE

	<i>Grooms</i>				<i>Brides</i>			
<i>Period</i>	<i>Bachelors</i>	<i>Widowers</i>	<i>Divorced</i>	<i>Total bride- grooms</i>	<i>Spinsters</i>	<i>Widows</i>	<i>Divorced</i>	<i>Total brides</i>
NUMBER								
Annual averages—								
1956-60	66,364	3,086	4,404	73,854	65,579	3,305	4,970	73,854
1961-65	75,384	3,063	4,803	83,250	74,962	3,218	5,070	83,250
1966-70	96,438	3,320	6,430	106,188	96,341	3,568	6,279	106,188
1971-75	99,203	3,473	9,126	111,802	99,287	3,810	8,705	111,802
Annual totals—								
1974	97,872	3,367	9,434	110,673	98,031	3,764	8,878	110,673
1975	89,912	3,308	10,753	103,973	90,010	3,681	10,282	103,973
1976	86,792	3,777	19,404	109,973	87,434	4,378	18,161	109,973
1977	81,172	3,385	20,361	104,918	81,694	3,999	19,225	104,918
1978	79,581	3,279	20,098	102,958	80,142	3,818	18,998	102,958
1979	80,226	3,266	20,904	104,396	80,893	3,996	19,507	104,396
MEDIAN AGES								
Annual averages—								
1956-60	24.73	56.50	39.25	25.37	21.57	47.61	35.44	21.99
1961-65	24.16	56.60	40.41	24.69	21.32	49.25	36.63	21.67
1966-70	23.54	56.69	39.75	23.94	21.19	50.05	36.08	21.50
1971-75	23.33	57.78	37.25	23.86	20.99	51.13	33.04	21.43
Annual totals—								
1974	23.28	58.13	36.75	23.83	20.92	51.21	33.02	21.37
1975	23.37	57.99	36.40	24.06	20.97	51.35	32.82	21.55
1976	23.62	57.86	36.56	24.89	21.23	51.19	32.58	22.24
1977	23.76	58.43	35.92	25.17	21.35	50.88	32.24	22.48
1978	23.94	58.54	35.95	25.41	21.55	51.81	32.37	22.71
1979	24.10	58.65	36.07	25.60	21.72	52.30	32.63	22.88

DEMOGRAPHY
AGE AT MARRIAGE

Period	Age								Total
	Under 20	20-24	25-29	30-34	35-39	40-44	45-49	50 and over	
GROOM									
Annual averages—									
1956-60	3,320	31,620	19,721	8,245	3,630	2,139	1,606	3,573	73,854
1961-65	5,278	38,845	20,344	7,495	3,799	2,154	1,498	3,837	83,250
1966-70	7,917	55,824	23,398	7,008	3,544	2,473	1,763	4,258	106,185
1971-75	8,427	59,058	24,374	7,408	3,425	2,376	1,970	4,765	111,802
Annual totals—									
1974	8,472	58,059	24,415	7,408	3,356	2,268	1,943	4,752	110,673
1975	7,399	52,512	23,510	7,674	3,685	2,352	1,998	4,843	103,973
1976	6,302	49,614	25,659	9,776	5,198	3,450	3,057	6,917	109,973
1977	5,242	46,059	24,908	10,750	5,216	3,399	2,915	6,429	104,918
1978	4,592	44,011	25,337	11,229	5,451	3,447	2,691	6,200	102,958
1979	4,069	43,778	26,537	11,687	5,706	3,576	2,710	6,333	104,396
BRIDE									
Annual averages—									
1956-60	18,568	33,626	9,209	4,325	2,647	1,753	1,373	2,353	73,854
1961-65	23,454	39,370	8,760	3,553	2,416	1,715	1,367	2,616	83,250
1966-70	30,475	53,356	10,334	3,521	2,143	1,764	1,545	3,047	106,185
1971-75	34,319	51,846	12,363	4,280	2,279	1,733	1,621	3,362	111,802
Annual totals—									
1974	34,753	50,162	12,530	4,397	2,252	1,665	1,582	3,332	110,673
1975	31,483	45,872	12,581	4,742	2,521	1,752	1,642	3,380	103,973
1976	28,063	45,891	15,755	6,866	3,892	2,641	2,356	4,509	109,973
1977	24,827	44,208	15,692	7,360	3,945	2,519	2,229	4,138	104,918
1978	22,290	44,094	16,114	7,810	4,026	2,525	2,121	3,978	102,958
1979	20,382	46,029	16,974	7,873	4,225	2,803	1,950	4,160	104,396

Marriage rates of the marriageable population provide a measure of changing marriage patterns. Marriage rates have been calculated for the three years around the census per thousand single, widowed and divorced males, females and persons.

The rates for 1975-77 were 64.86 for males, 61.92 for females, and 63.36 for persons.

The proportion of all marriages celebrated by civil officers rose to 36.0 per cent of all marriages registered in 1979. This proportion has more than doubled since 1973.

MARRIAGE RATES OF MARRIAGEABLE POPULATION

Censal period	Per thousand single, widowed and divorced, aged 15 and over			Per thousand persons	
	Males	Females	Persons	Rate	Index
	rate	rate	rate		
1880-82	39.38	63.56	48.63	7.62	100
1890-92	36.50	35.50	44.04	7.28	96
1900-02	37.32	48.39	42.14	7.27	95
1910-12	45.80	55.33	50.12	8.74	115
1920-22	54.00	58.08	55.97	8.75	115
1932-34	41.70	44.13	42.88	7.12	93
1946-48	71.89	70.60	71.24	10.15	133
1953-55	64.20	66.46	65.32	7.92	104
1960-62	61.50	63.07	62.27	7.34	96
1965-67	68.06	68.04	68.05	8.32	109
1970-72	70.34	67.11	68.69	9.09	119
1975-77	64.86	61.92	63.36	7.84	103

Divorce

The *Matrimonial Causes Act* 1959–66 provided for dissolution of marriage on one or more of 14 grounds. It also provided for nullity of marriage and for judicial separation. This Act, which came into operation in 1961, replaced separate State and Territory legislation. The *Family Law Act* 1975, which came into operation on 5 January 1976, provides for a single ground for divorce—irretrievable breakdown of marriage—and for nullity of marriage on the ground that the marriage is void.

Statistics prior to 1976 in the following tables relate to divorces granted under the *Matrimonial Causes Act* or under previous State or Territory legislation. Statistics for 1976 differentiate between divorces granted under *Matrimonial Causes* and *Family Law* legislation. Although *Family Law* legislation provides for petitions filed before 1976 to be heard under the superseded *Matrimonial Causes* legislation, statistics of divorces granted after 1976 make no such differentiation.

When comparing the number and rate of decrees granted from year to year it should be borne in mind that the availability of judges to hear petitions lodged can affect the number of decrees granted. A rise in one year may be due wholly or in part to the clearing of a backlog of cases from an earlier year. In addition, changes to legislature, rules or practices may also affect the number of divorce applications.

Following a sharp rise in the number of divorces in 1976, the first year of *Family Law* legislation, the number dropped by 29 per cent to 45,175 in 1977. However, this number was still 86 per cent higher than the number granted in 1975 under *Matrimonial Causes* legislation. The preliminary total for 1979 is 38,021.

DIVORCE: DISSOLUTION, NULLITY AND JUDICIAL SEPARATION

Period	Petitions filed	Petitions granted
Annual averages—		
1956–60	8,310	6,788
1961–65	9,955	7,611
1966–70	13,089	10,738
1971–75	22,704	17,405
Annual totals—		
1974	26,855	17,744
1975	28,383	24,307
1976	66,092	63,267
<i>Matrimonial Causes</i>	—	15,743
<i>Family Law</i>	66,092	47,524
1977	41,628	45,175
1978	40,918	40,633
1979p	37,393	38,021

Duration of marriage, age at marriage and age at divorce

The median duration of marriages dissolved in 1978 was 10.5 years. Of the 40,608 marriages which were dissolved, 47.9 per cent had lasted less than ten years, 30.6 per cent between ten and twenty years and 21.4 per cent more than twenty years.

DISSOLUTION OF MARRIAGE, YEARS MARRIED

Period	Years married						Total	Median duration of marriage
	0–4	5–9	10–14	15–19	20–24	25 and over		
Annual averages—								
1956–60	486	2,157	1,726	1,075	624	644	6,712	11.7
1961–65	501	1,999	1,747	1,329	926	1,040	7,542	13.6
1966–70	903	2,937	2,146	1,685	1,429	1,581	10,681	13.4
1971–75	1,693	5,478	3,432	2,398	1,930	2,417	17,349	11.9
Annual totals—								
1973	1,624	5,209	3,121	2,181	1,793	2,268	16,196	11.8
1974	1,672	5,612	3,571	2,382	1,941	2,510	17,688	11.8
1975	2,401	7,861	4,873	3,353	2,481	3,288	24,257	11.6
1976	9,791	19,108	11,421	7,917	6,200	8,793	63,230	11.0
1977	7,802	12,960	8,383	5,630	4,374	6,001	45,150	10.9
1978	7,839	11,599	7,504	4,941	3,755	4,970	40,608	10.5

In 1978, the median age at marriage of divorcing husbands was 23.3 years and of wives 20.8 years. Of husbands, 11.2 per cent had been aged under 20 at marriage and 54.0 per cent aged 20–24; of wives 39.8 per cent had been aged under age 20 and 42.8 per cent between 20–24.

DISSOLUTION OF MARRIAGE, AGE AT MARRIAGE

Age at marriage (years)													
Period	Under	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60 and over	Not stated	Total dissolutions	Median age
	20												
HUSBAND													
Annual averages—													
1961–65	491	3,521	1,983	753	363	187	101	56	29	26	32	7,542	24.6
1966–70	946	5,271	2,567	932	448	238	129	73	37	37	3	10,681	24.2
1971–75	1,856	9,354	3,686	1,210	552	292	174	94	51	46	34	17,349	23.5
Annual totals—													
1973 . .	1,667	8,717	3,416	1,132	538	275	156	92	48	49	106	16,196	23.4
1974 . .	1,899	9,581	3,758	1,248	555	274	167	81	42	39	44	17,688	23.4
1975 . .	2,816	13,326	4,924	1,528	724	396	262	119	79	66	17	24,257	23.3
1976 . .	7,130	34,036	12,872	4,257	2,038	1,195	678	391	263	235	135	63,230	23.4
1977 . .	5,268	24,209	9,328	3,041	1,380	755	471	299	157	178	64	45,150	23.3
1978 . .	4,538	21,934	8,290	2,675	1,323	705	456	284	147	183	73	40,608	23.3
WIFE													
Annual averages—													
1961–65	2,347	3,265	1,026	430	218	112	56	29	15	10	34	7,542	22.1
1966–70	3,781	4,614	1,231	477	263	149	80	42	23	18	3	10,681	21.7
1971–75	6,662	7,710	1,630	592	317	185	108	58	27	24	35	17,349	20.9
Annual totals—													
1973 . .	6,111	7,253	1,493	552	302	180	102	51	26	23	103	16,196	20.9
1974 . .	6,734	8,025	1,614	574	322	196	81	49	33	17	43	17,688	20.9
1975 . .	9,569	10,698	2,199	792	388	265	162	85	36	42	21	24,257	20.8
1976 . .	24,632	27,354	5,906	2,148	1,210	728	504	279	166	124	179	63,230	21.0
1977 . .	18,377	18,944	4,233	1,514	835	496	303	180	83	111	74	45,150	20.7
1978 . .	16,144	17,363	3,714	1,449	754	440	281	207	84	92	80	40,608	20.7

At time of divorce, the median age of husbands was 35.7 years and of wives 32.7 years. A total of 27.2 per cent of husbands and 38.6 per cent of wives were aged under 30 years when the marriage was dissolved.

Children of the marriage

For the years in which the Matrimonial Causes Act was in force, children of the marriage were defined as living children under the age of 21 at the time of the petition. Under previous legislation there were differences between States. The Family Law Act defines them as children of the marriage if they were under the age of 18 at the time of application. In 1978, of the dissolutions granted under the Family Law Act, no children were involved in 37 per cent of the dissolutions, while 22 per cent of the dissolutions involved 1 child, 25 per cent 2 children, and 16 per cent 3 or more children.

DISSOLUTION OF MARRIAGE, NUMBER OF CHILDREN

Period	Number of children of the marriage						Total dissolutions	Total children	Average number of children
	0	1	2	3	4	5 and over			
Annual averages—									
1956-60	2,318	1,810	1,466	657	278	190	6,720	8,946	1.3
1961-65	2,834	1,950	1,611	753	279	143	7,568	9,347	1.2
1966-70	3,628	2,656	2,428	1,212	497	261	10,681	14,588	1.4
1971-75	5,628	4,062	4,200	2,147	874	438	17,349	24,840	1.4
Annual totals—									
1973	5,245	3,834	3,894	2,025	818	380	16,196	23,078	1.4
1974	5,615	4,138	4,431	2,194	863	447	17,688	25,505	1.4
1975	7,870	5,467	6,031	3,029	1,254	606	24,257	34,992	1.4
1976	23,606	14,751	14,422	6,761	2,542	1,148	63,230	73,645	1.2
1977	16,381	10,473	11,005	4,857	1,679	755	45,150	57,878	1.3
1978	14,965	9,127	10,047	4,336	1,530	603	40,608	51,599	1.3

Period	Permanent and long-term movement				Short-term movement				
	Per- manent	Long-term	Overseas visitors arriving	Total permanent and long-term arrivals	Australian residents returning	Overseas visitors arriving			
	Settlers arriving	Australian residents returning				In transit	Other	Total	Total arrivals
Annual averages—									
1956-60	n.a.	n.a.	n.a.	123,153	61,922	16,841	50,903	67,744	252,819
1961-65	115,198	22,258	14,770	152,226	117,041	28,685	102,776	131,461	400,727
1966-70	160,813	36,148	24,481	221,442	259,700	41,476	255,800	297,275	778,417
1971-75	109,687	57,751	26,254	193,692	631,446	74,356	401,569	475,925	1,301,063
Annual totals—									
1974	121,324	63,320	26,984	211,628	752,218	78,166	454,517	532,683	1,496,529
1975	54,117	58,352	19,858	132,327	880,609	78,222	437,801	516,023	1,528,959
1976	58,317	59,875	23,312	141,504	968,265	66,462	465,406	531,868	1,641,636
1977	75,640	57,700	27,472	160,813	973,677	53,032	510,249	563,281	1,697,771
1978	68,419	57,938	28,389	154,745	1,029,482	57,501	573,093	630,594	1,814,822
1979	72,236	61,441	33,550	167,127	1,144,335	66,340	727,005	793,345	2,104,807

OVERSEAS ARRIVALS AND DEPARTURES: AUSTRALIA 1956-1979(a)—continued

DEPARTURES

Period	Permanent and long-term movement						Short-term movement		
	Permanent			Long-term		Total permanent and long-term departures	Australian residents departing	Overseas visitors departing	Total departures
	Former settlers departing	Other residents departing	Total permanent departures	Australian residents departing	Overseas visitors departing				
Annual averages—									
1956-60	n.a.	n.a.	n.a.	n.a.	n.a.	42,161	61,224	68,430	171,815
1961-65	9,698	6,798	16,496	37,905	12,719	67,120	118,624	135,006	320,749
1966-70	23,191	8,752	31,942	56,219	14,349	102,511	258,824	308,321	669,656
1971-75	26,622	12,032	38,654	66,430	22,984	128,067	647,608	479,015	1,254,690
Annual totals—									
1974	21,849	11,902	33,751	66,228	24,401	124,380	769,650	515,378	1,409,408
1975	18,315	10,769	29,084	66,405	23,327	118,816	911,815	506,454	1,537,084
1976	16,815	9,918	26,733	68,526	20,631	115,890	973,799	512,468	1,602,156
1977	14,171	8,591	22,762	64,091	19,182	106,035	971,253	540,943	1,618,230
1978	14,027	10,933	24,960	58,519	19,643	103,122	1,062,234	597,123	1,762,480
1979	12,670	10,750	23,420	54,266	20,422	98,107	1,175,769	752,441	2,026,316

EXCESS OF ARRIVALS OVER DEPARTURES

Period	Permanent and long-term movement						Short-term movement (a)			
	Permanent			Long-term			Total permanent and long-term	Australian residents	Overseas visitors	Total short-term
	Settlers	Others	Total	Australian residents	Overseas visitors	Total long-term				
Annual averages—										
1956-60	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	80,992	699	-686	12
1961-65	105,500	-6,798	98,702	-15,648	2,051	-13,597	85,106	-1,583	-3,544	-5,127
1966-70	137,622	-8,752	128,870	-20,071	10,132	-9,939	118,931	876	-11,046	-10,169
1971-75	83,065	-12,032	71,034	-8,679	3,271	-5,408	65,625	-16,163	-3,090	-19,253
Annual totals—										
1974	99,475	-11,902	87,573	-2,908	2,583	-325	87,248	-17,432	17,305	-127
1975	35,802	-10,769	25,033	-8,053	-3,468	-11,521	13,512	-31,207	9,568	-21,639
1976	41,502	-9,918	31,584	-8,653	2,681	-5,972	25,611	-5,534	19,400	13,864
1977	61,469	-8,591	52,878	-6,391	8,291	1,900	54,778	2,424	22,338	24,762
1978	54,392	-10,933	43,458	-581	8,746	8,165	51,623	-32,752	33,471	719
1979	59,566	-10,750	48,816	7,175	13,028	20,203	69,020	-31,434	40,904	9,470

(a) Statistics of short-term movements since 1974 are estimates based on sampling.

Migration to Australia

Migration to Australia is regulated by the *Migration Act 1958* which came into force on 1 June 1959. Any person entering Australia after the commencement of the Act without having been granted an entry permit or who is not within an exempted class is a prohibited immigrant. Exempted persons include diplomatic and consular representatives of other countries, and seamen and air crew who enter with leave in Australian ports.

Prior to January 1975, citizens of the United Kingdom and Ireland were able to travel to Australia without obtaining any authority to do so; but, with the introduction of a non-discriminatory policy, they are now required to meet the same requirements as all other prospective migrants. Because of reciprocal arrangements on travel between the Australian and New Zealand governments, New Zealanders may come to Australia and Australian citizens may enter New Zealand as they wish.

Immigration has contributed substantially to Australia's post war population growth. In the post-war years, some 3.6 million migrants have arrived, of which an estimated 80 per cent settled. They and those of their children born in Australia have been responsible for about half of Australia's post war population growth.

In 1979, settler arrivals were 72,236 having risen from a post-war lowest level of 54,117 in 1975. The highest annual post-war level was 185,325 in 1970. The composition of the settler intake (in terms of source countries) has also altered markedly. The proportion of settlers from Asia (34 per cent), predominantly from South-East Asian countries, now exceeds that from Europe (31 per cent), which had made up more than three quarters of the settler intake before 1970. There has also occurred a substantial increase of settlers from New Zealand.

SETTLERS ARRIVING BY COUNTRY OF LAST RESIDENCE

	Number		Per cent	
	1970	1979	1970	1979
South Africa	1,751	2,921	0.9	4.0
Other Africa	3,799	1,085	2.1	1.5
<i>Total Africa</i>	5,550	4,006	3.0	5.5
Canada	2,080	949	1.1	1.3
U.S.A.	4,909	1,467	2.7	2.0
Other America	4,262	2,095	2.3	2.9
<i>Total America</i>	11,251	4,511	6.1	6.2
Bangladesh, India, Pakistan and Sri Lanka	4,119	907	2.2	1.3
Lebanon	3,974	1,032	2.1	1.4
Malaysia and Singapore	1,501	10,047	0.8	13.9
Turkey	4,399	687	2.4	1.0
Other Asia	4,014	12,030	2.2	16.6
<i>Total Asia</i>	18,007	24,703	9.7	34.2
U.K. and Ireland	77,522	12,284	41.8	17.0
Austria	12,790	742	6.9	1.0
Germany	5,106	1,072	2.8	1.5
Greece	10,098	891	5.4	1.2
Italy	8,843	2,405	4.8	3.3
Yugoslavia	15,717	1,138	8.5	1.6
Other Europe	14,102	3,558	7.6	4.9
<i>Total Europe</i>	144,178	22,090	77.8	30.6
New Zealand	5,532	15,489	3.0	21.4
Other Oceania	807	1,419	0.4	2.0
<i>Total Oceania</i>	6,339	16,908	3.4	23.4
Not Stated . . . . .	..	18	..	..
<i>Total</i>	185,325	72,236	100.0	100.0

Each year Australia loses a proportion of its previous migrant intakes. Additionally, partly as a result of the high international mobility of professional and skilled workers, substantial numbers of Australians take up job opportunities overseas.

Eligibility for entry for settlement is restricted to certain family members and fiancées and fiancés of Australian residents, to others who possess skills, qualifications, personal or other qualities which represent an economic, social or cultural gain to Australia, and to refugees.

The grant of passage assistance is restricted to refugees and skilled workers in demand in Australia.

DEMOGRAPHY
SETTLER ARRIVALS

<i>Period</i>	<i>Assisted</i>	<i>Unassisted</i>	<i>Total</i>
<i>Annual averages—</i>			
1961-65	67,426	47,772	115,198
1966-70	107,496	53,317	160,813
1971-75	58,176	51,511	109,687
<i>Annual totals—</i>			
1974	52,194	69,130	121,324
1975	21,345	32,772	54,117
1976	15,840	42,481	58,321
1977	17,532	58,108	75,640
1978	19,549	48,870	68,419
1979	19,063	53,173	72,236

SETTLER ARRIVALS BY AGE

	Age in years						
Period	0-4	5-14	15-24	25-44	45-64	65 and over	All ages
MALES							
Annual averages—							
1961-65	6,831	10,532	15,379	21,776	4,535	919	59,972
1966-70	10,542	15,434	21,184	32,272	5,809	1,243	86,484
1971-75	7,411	10,009	12,878	20,326	3,921	1,247	55,792
Annual totals—							
1974	8,149	11,048	13,397	23,452	4,317	1,402	61,765
1975	4,124	4,968	4,011	8,673	1,735	1,063	24,575
1976	3,996	5,543	5,339	9,556	2,105	1,183	27,722
1977	5,205	7,221	8,009	12,410	3,461	1,344	37,650
1978	4,577	6,768	7,463	11,351	2,897	1,378	34,434
1979	4,986	6,837	7,598	12,205	2,873	1,339	35,838
FEMALES							
Annual averages—							
1961-65	6,333	9,772	14,248	18,262	5,135	1,476	55,226
1966-70	9,909	14,435	17,751	24,132	6,240	1,861	74,328
1971-75	6,952	9,301	13,685	17,445	4,787	1,725	53,895
Annual totals—							
1974	7,527	9,988	14,940	20,053	5,250	1,801	59,559
1975	3,908	4,671	6,990	9,676	2,807	1,491	29,544
1976	4,100	5,314	6,537	9,830	3,280	1,538	30,599
1977	4,821	6,597	8,070	12,104	4,595	1,803	37,990
1978	4,062	5,651	7,578	11,202	3,738	1,754	33,985
1979	4,621	6,062	8,438	11,874	3,607	1,796	36,398
PERSONS							
Annual averages—							
1961-65	13,164	20,305	29,627	40,038	9,670	2,395	115,198
1966-70	20,451	29,869	38,935	56,405	12,049	3,104	160,813
1971-75	14,363	19,311	26,563	37,771	8,708	2,972	109,687
Annual totals—							
1974	15,676	21,036	28,337	43,505	9,567	3,203	121,324
1975	8,032	9,639	11,001	18,350	4,542	2,554	54,117
1976	8,096	10,857	11,876	19,386	5,385	2,721	58,321
1977	10,026	13,818	16,075	24,518	8,056	3,147	75,640
1978	8,639	12,419	15,041	22,553	6,635	3,132	68,419
1979	9,607	12,899	16,036	24,079	6,480	3,135	72,236

SETTLER ARRIVALS BY MARITAL STATUS

	Never married				
Period	Under 15 years	15 years and over	Married	Widowed and divorced	Total
MALES					
Annual averages—					
1961-65	17,364	20,190	21,800	618	59,972
1966-70	25,976	25,742	33,668	1,098	86,484
1971-75	17,420	14,750	22,595	1,027	55,792
Annual totals—					
1974	19,197	15,508	25,829	1,231	61,765
1975	9,092	4,664	10,377	442	24,575
1976	9,541	6,710	10,888	581	27,720
1977	12,426	9,631	14,826	767	37,650
1978	11,345	8,451	13,808	830	34,434
1979	11,817	8,453	14,562	1,006	35,838
FEMALES					
Annual averages—					
1961-65	16,105	13,245	23,377	2,500	55,226
1966-70	24,344	12,530	34,125	3,330	74,328
1971-75	16,246	9,752	25,055	2,842	53,895
Annual totals—					
1974	17,498	10,863	28,183	3,015	59,559
1975	8,559	5,521	13,614	1,849	29,544
1976	9,361	5,473	13,886	1,877	30,597
1977	11,378	6,319	17,874	2,419	37,990
1978	9,700	5,955	15,950	2,380	33,985
1979	10,672	6,609	16,518	2,599	36,398
PERSONS					
Annual averages—					
1961-65	33,468	33,435	45,177	3,118	115,198
1966-70	50,320	38,272	67,793	4,427	160,813
1971-75	33,666	24,502	47,651	3,869	109,687
Annual totals—					
1974	36,695	26,371	54,012	4,246	121,324
1975	17,651	10,185	23,991	2,290	54,117
1976	18,902	12,182	24,779	2,458	58,321
1977	23,804	15,950	32,700	3,186	75,640
1978	21,045	14,406	29,758	3,210	68,419
1979	22,489	15,062	31,080	3,605	72,236

Refugees

Australia accepted 17,057 people under refugee and special humanitarian programs in 1979. This compared with an intake of 10,472 in 1978.

Since 1945, Australia has accepted some 400,000 refugees or displaced persons, including 170,000 from Europe who were displaced by the Second World War and its aftermath.

Australia presently accepts refugees from about 40 countries. The largest single element in Australia's current refugee intake is the Indo-Chinese program. In 1979, 13,758 Indo-Chinese refugees were resettled in Australia, bringing the total intake since 1975 to 29,754.

Australia is one of 78 countries which have become party to an international convention and protocol on the status of refugees and, in so doing, have taken on certain international legal obligations to assist refugees. It is also a member of the Executive Committee of the United Nations High Commissioner for Refugees. Australia's principal reason for accepting refugees, however, is a humanitarian one; it wants to assist in relieving the plight of people who have no country to which they may return and who, in many cases, are without assets and living in conditions of severe deprivation.

REFUGEE ARRIVALS

<i>Period</i>	<i>Assisted</i>	<i>Other</i>	<i>Total</i>
Annual average—			
1956-60	5,904	n.a.	n.a.
1961-65	1,799	n.a.	n.a.
1966-70	7,446	n.a.	n.a.
1971-75	2,773	7,776	10,549
Annual totals—			
1974	1,686	7,013	8,699
1975	853	3,302	4,155
1976	865	3,231	4,096
1977	2,202	7,272	9,474
1978	8,790	1,682	10,472
1979	14,639	2,418	17,057

Citizenship

The grant of citizenship is controlled by the *Australian Citizenship Act* 1948. Citizenship may be acquired by birth in Australia, by birth abroad to an Australian parent, or by grant of citizenship to persons resident in Australia under conditions prescribed in the Act.

An amendment to the legislation in 1973 meant that all persons are now eligible for the grant of Australian citizenship provided that they have lived in Australia for at least three years, are of good character, have an adequate knowledge of English and of the responsibilities and privileges of citizenship, and declare that their intention is to reside permanently in Australia.

PERSONS GRANTED AUSTRALIAN CITIZENSHIP

<i>Period</i>	<i>Number</i>
Annual averages—	
1956-60	44,412
1961-65	43,823
1966-70	40,934
1971-75	61,182
Annual totals—	
1974	87,549
1975	84,059
1976	118,189
1977	70,706
1978	65,094
1979	53,555

Sources

Comprehensive statistics on aspects of demography are in the following publications of the Australian Bureau of Statistics:

1976 Census publications including: *Population of States and Territories Adjusted for Under-Enumeration as Shown by Post-Enumeration Survey* (2212.0); *Summary of Population and Dwelling Characteristics: States, Territories and Australia* (2409.0 to 2417.0); *Characteristics of the Population and Dwellings: States, Territories and Australia* (2418.0 to 2426.0); *Characteristics of the Population and Dwellings in Local Government Areas* (2427.0 to 2434.0).

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RECENT DECLINE IN AUSTRALIAN FERTILITY

L. T. Ruzicka* and C. Y. Choi**

Introduction

In the history of European settlement in Australia, one major concern to governments and the public has been the size and growth of the population. In the sparsely populated continent rich in natural resources, a healthy growth of the population has been considered essential to the economic and social well-being of the country. Large scale immigration has been actively promoted and sustained since the colonial days, and on many occasions when the birthrate declined, official concern has been expressed.

As early as in 1904, the New South Wales Government set up a Royal Commission to investigate the causes of the decline of the birthrate since the 1880s;¹ and in 1942, having experienced the low fertility periods of the Depression of the 1930s, the Commonwealth Government established a Committee of Inquiry into the declining birthrate and supported research into its causes by the National Health and Medical Research Council.²

In 1970, the Commonwealth Government commissioned a National Population Inquiry, and the First Report of the Inquiry in 1975 (popularly known as the 'Borrie Report' after its Chairman) strongly suggested that fertility, after the decline in the mid 1960s, would not return to its high levels of the 1950s. The Report adopted in its population projections fertility levels corresponding to a net reproduction rate of unity (replacement level) from 1975-76 as its 'preferred' fertility assumption.³

Since the publication of the Borrie Report, Australia's fertility has further declined. In 1976, it had fallen below long term population replacement level and the net reproduction rate declined further to 0.937 in 1978. In 1979, the preliminary estimate of the number of registered births was 223,100, yielding a birthrate of 15.0 per 1,000 population.⁴ This is the lowest ever recorded in Australia's history.

This article attempts to describe the demographic forces which bear on the current level of fertility and to isolate the contribution to the recent decline in terms of changes in reproductive patterns, marriages and the timing of births.

Number of births and the birthrate

In 1971, the Australian Bureau of Statistics reported 276,362 registered births, this being the highest number of births recorded in Australia. Since then, the annual number of registered births has been continuously declining. By 1979, it had dropped by almost one-fifth to 223,100. In relation to population size, that is in terms of the crude birth rate, the post World War II peak was reached in 1947 with 24.1 births per thousand population. Subsequently, the rates fluctuated at a comparatively high level and within a narrow range between 22.4 (in 1960) and 23.3 (in 1950 and 1952).⁵ Thereafter, they dropped below 20 in 1965-67, briefly recovered to 21.6 in 1971, only to set on a steeply declining trend plunging eventually to 15.0 per 1,000 population in 1979.

TABLE 1. BIRTHS AND BIRTHRATES

Year	Births	Crude birthrate	General fertility rate per 1,000 women age 15-44
1961	239,986	22.8	101.4
1966	223,731	19.3	94.2
1971	276,362	21.6	102.3
1972	264,969	20.4	96.0
1973	247,670	18.5	87.9
1974	245,177	18.0	84.9
1975	233,012	16.9	79.1
1976	227,810	16.4	75.8
1977	226,291	16.1	73.7
1978	224,181	15.7	71.4
1979	223,100	15.0	69.6

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Neither the number of births nor the crude birthrate are indices suitable for revealing the complicated network of forces which operate on fertility change. Considering only demographic determinants of fertility and leaving aside social and economic factors, it is obvious that the annual number of births is dependent on the number of women capable of childbearing (i.e. women of childbearing ages), their past and current fertility behaviour, the timing of their births and how this timing is influenced by changes in marriages and the spacing of children. These contributing factors will be analysed below.

Between 1961 and 1978, the number of women in each of the five year age groups between ages 15 to 44 increased; hence the decline of the number of births reflects a considerable decline in fertility of women of child bearing ages which more than compensated for the increase in the number of these women. The general fertility rate of women aged 15-44 shows a decline of 31 per cent between 1961 and 1979 reaching a low level of 69.6 per 1,000 in 1979.

The decline in fertility was somewhat less between the ages 15 to 34 years but very steep after age 34. By 1978, the summary measure, the total fertility rate, was reduced to 56 per cent of its 1961 value (Table 2). Even at the prime childbearing ages of 25 to 29 years, the 1978 rate was only 66 per cent of the 1961 rate. The decline in fertility at ages above 30 has meant that an increasing proportion of births now occur to women of ages below 30 years, 77 per cent in 1978 compared with 68 per cent in 1961.

TABLE 2. AGE SPECIFIC AND TOTAL FERTILITY RATES(a), 1961-1978

Year	Age specific birth rates							Total fertility rate
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
1961	47.4	225.8	221.2	131.1	63.4	19.2	1.4	3,547
1966	48.9	173.1	183.9	105.1	50.6	14.2	1.0	2,884
1971	55.2	180.9	195.4	102.3	44.9	11.4	0.8	2,954
1972	54.5	168.7	181.6	94.0	38.9	10.0	0.7	2,742
1973	47.9	151.3	164.9	82.7	32.9	8.5	0.6	2,443
1974	44.4	146.1	161.4	79.3	29.5	7.3	0.5	2,341
1975	40.4	134.4	151.0	75.0	26.4	6.2	0.4	2,168
1976	35.6	129.2	147.3	73.1	24.3	5.6	0.4	2,077
1977	32.6	123.1	147.2	74.8	24.0	5.0	0.3	2,035
1978	30.4	116.9	145.9	74.2	23.6	4.5	0.2	1,979
Index: 1961 = 100								
1971	116	80	88	78	71	59	57	83
1976	75	57	67	56	38	29	29	59
1978	64	52	66	57	37	23	14	56

(a) The total fertility rate is the sum of the age-specific birth rates multiplied by 5. It represents the number of children that would be born to 1,000 women who experienced throughout their childbearing lives the age-specific birth rates for the year shown.

Fertility rates of a given year, say 1978, represent the experience of a wide range of generations of women. Those aged 45-49 years in 1978 were born in 1928-33, married probably in the late 1940s and early 1950s, accomplished a large part of their family formation in the late 1950s and early 1960s and contributed little to the fertility of the 1970s. Women aged 30-34 years in 1978 were born in 1943-48, married probably in the mid and late 1960s and contributed to the fertility of the late 1960s and the 1970s. Their reproductive life in 1978 was not yet at an end, but by past experience very close to it. The fertility of a particular year or sequence of years (we shall call this time-period fertility) needs to be understood in terms of the contribution from the different generations of women.

Generational fertility

As the term implies, generational fertility is the cumulative lifetime fertility of a cohort (generation) of women born in the same year or years.

If we read the age-specific fertility rates in Table 3 along the diagonal from the upper left to the lower right hand corner and sum them up, we obtain the cumulative fertility of the generation, that is, the average number of children born by 1,000 women of a given generation. For those born around 1928-33, i.e. aged 45-49 in 1976-1978, the cumulative fertility is 3,077 per 1,000 women reaching the end of their reproductive life span. Those born in 1943-48, in contrast, have given birth to 2,318 children per 1,000 women so far, and are likely to end their reproductive life with between 2,450 and 2,500 when they reach the ages of 45-49 years in the early 1990s.

TABLE 3. PERIOD AND GENERATIONAL FERTILITY RATES

Period	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Period TFR(a)
1931-35	25.6	101.8	124.1	96.8	61.6	24.8	2.6	2,186
1936-40	24.2	108.4	131.9	98.3	57.6	20.1	2.0	2,213
1941-45	23.8	126.9	152.8	114.3	66.3	21.1	1.7	2,535
1946-50	33.0	164.2	183.3	126.6	72.3	22.7	1.8	3,020
1951-55	39.5	192.8	193.0	123.5	65.0	20.5	1.5	3,180
1956-60	44.2	216.4	211.5	126.1	63.9	19.0	1.4	3,412
1961-65	46.5	204.0	207.2	122.4	59.2	17.5	1.2	3,289
1966-70	49.3	172.6	187.6	103.0	46.8	12.9	1.0	2,867
1971-75	48.0	154.8	170.6	85.7	34.3	8.6	0.6	2,514
1976-78	32.9	123.1	146.8	74.0	24.0	5.0	0.3	2,030

Generation born in(b)	1913-18	1918-23	1923-28	1928-33	1933-38	1938-43	1943-48	1948-53
Generational TFR(a)	2,493	2,701	2,899	3,077	(c)3,028	(c)2,754	(c)2,465	(c)2,271
Index: 1918-23 = 100	92	100	107	114	112	102	91	84

(a) TFR=Total Fertility Rate. (b) Approximation only. A large proportion of those aged 15-19 in the period 1936-40 and aged 20-24 in 1941-45 etc were born in 1918-23. (c) The incomplete reproductive experience of these generations was extrapolated by assuming that the age specific fertility rates would remain at the level recorded in 1976-78. (This assumption implies that for the generation born in 1948-53 age-specific fertility rates of 1976-78 would apply for ages 30-49 years.)

The pattern of age specific fertility in any given year thus reflects the various stages in reproductive life of generations born in a span of about 30-35 years; some of them are yet to be married and to start a family, and others are close to the end of their biological capability of having children. More importantly, the span of 30-35 years between the youngest and the oldest women represents a wide range of experiences, attitudes and aspirations which are influenced by the social and economic environment at various stages of their life cycle. Thus, for instance, the low fertility rates of women born in 1913-18 may have been affected by the separation of wives and husbands during the War at a time when they reached the prime reproductive ages of 20-29 years. Some compensation for deferment of births may have been the cause of the increased fertility in the late 1940s when this generation reached age 30-34.

Comparing fertility at various ages between generations of women shows that each subsequent generation achieved a higher proportion of their completed fertility before the age of 30 years and a lower proportion after the age of 30 years. (see Table 4 below). The generation born in 1918-23 had 62 per cent of their children before they turned 30 years of age; between 30 and 40 years of age, they added 34 per cent of their completed fertility, and 4 per cent were born to these women after the age of 40 years. In contrast, women of the generation born in 1938-43 achieved almost 80 per cent of their estimated total number of children before 30 years of age, adding only 20 per cent between the ages 30 to 40 years. (This generation, who were aged 35-40 in 1978 had not yet completed their child bearing ages; their completed fertility of 2,754 per 1,000 has been estimated by extrapolation).

TABLE 4. CUMULATIVE GENERATIONAL FERTILITY

Generation born in	Cumulative fertility (per 1,000 women) at age			Per cent of total TFR	
	30	40	50	30	30-40
1913-18	1,434	2,392	2,493	58	38
1918-23	1,672	2,609	2,701	62	34
1923-28	1,905	2,831	2,899	66	32
1928-33	2,186	3,032	3,077	71	27
1933-38	2,315	3,002	3,028	76	23
1938-43	2,179	2,727	2,754	79	20
1943-48	1,948	2,438	2,465	79	20

Source: Derived from Table 3.

The shift of childbearing towards younger ages was partly responsible for the very high levels of fertility in the 1950–65 period. While fertility of those aged 30 and over remained still comparatively high in this period (over 120 per 1,000 women aged 30–34) reflecting the late completion of childbearing of the older generations, the younger generations had started their families early and attained high fertility while they were still in their 'twenties'. The joint effect of these two generational patterns of childbearing gave rise to a very high level of fertility and contributed to the 'baby boom' of this period.

It is worth noting that the high fertility level of the 1950–65 period does not mean that there had been a sudden increase in the family size of the generations of women who passed through their childbearing ages in those years. None of these generations ever reached the completed fertility suggested by the time-period rates (total fertility rates) for these years. The highest generational fertility of 3,077 children per 1,000 women born in 1928–33 was considerably less than the total fertility rates of the 1951–65 period. The change in the timing of childbearing of successive generations of women had gradually concentrated more of their births into a shorter span of years, creating a sharp increase in time period fertility, particularly in 1956–60.

Changes in fertility pattern and the timing of births in generations can also have a converse effect on time period fertility. While the new younger childbearing pattern is being established, the time period fertility will for some time fall below the cumulative generational fertility levels that the relevant generations will actually achieve. This may be exemplified by the comparison between the low total fertility rate of the 1976–78 period and the relatively higher generational fertility anticipated for the women born in 1948–53.

In general therefore, even if generational fertility remains unchanged, a shift to childbearing at younger age has the tendency to raise the time period fertility level in the short term. Conversely, postponement of childbearing has the opposite effect. The 'baby boom' of the late 1950s and the sustained high number of births throughout the 1960s were partly due to earlier childbearing of the younger generations and the late childbearing of the older generations of the period. This creates a misleading impression of a strong swing towards larger family size which did not exist. The 1951–65 time period fertility rates were not a reliable guide to the understanding of reproductive pattern and levels of the generations which passed through this period.

Similarly the rapid decline in fertility in the 1970s reflects not only the reduction in generational fertility but also the effects of the low fertility of the older women who had completed much of their family formation in the 1960s and the low fertility of the younger women who had postponed their childbearing. In other words, changes in fertility in the 1970s comprise three elements:

- (i) the effect of the stabilisation of the pattern of marriage and childbearing established in the preceding years,
- (ii) the effect of a de-stabilising of those patterns through the delay of marriage and the postponement of the first birth by the younger generations, and
- (iii) a long term trend towards reduction of higher order births and the concentration of the distribution at second and third births.⁶

The most recent generations of women for whom we can approximately predict cumulative fertility are those born in 1948–53 (reaching age 30 in 1978–83). They are likely to end their childbearing with about 2,400 to 2,500 births per 1,000 women, 25 per cent below that of the 1928–33 generation (see Table 3 page 116).

Total fertility is primarily a function of proportions married and fertility within marriage. In a situation where fertility is low and where a completed family size of 2 or 3 can be achieved either early or late in the childbearing age span, the time period fertility level is dependent to a large extent on the age pattern and the timing of births; and this in turn is influenced by changes in marriage patterns and age at marriage. The following section discusses these changes as they affected the recent fertility decline.

Marriage and marital fertility

In 1976, 28 per cent of women aged 15–49 years were unmarried. Most of them were young single women; divorced and separated represented 6–7 per cent of women aged 25 years and over and widows reached almost 5 per cent among those aged 45–49 years. Almost all Australian women were married before they reached the age 30–34 years; in 1976 only 7 per cent of women of this age were never married.

The age pattern of marriages changed over time and, in particular, during the 1950s and 1960s. The median age at first marriage has been steadily declining for both brides and grooms. In 1946–50 it was 22.4 years for brides; by 1961–65 it had dropped to 21.3 years and continued falling so that in 1974 it stood at 20.9 years. Since then the age of brides at first marriage has been rising again and the median reached 21.6 years in 1978.

If we look at the changes in marriage patterns from the generational rather than the time-period perspective, a similar picture emerges. The generation born in 1915 had a median age of brides at first marriage of 24.3 years, those born in 1918 had 23.5 years, and each subsequent cohort reached the proportion of 50 per cent ever married at an earlier age. Those born in 1951 and 1952 displayed the earlier median age at marriages of 21.3 years. Since then the postponement of first marriages caused the median to rise again—up to 22.6 years for the 1957 birth cohort (see Table 5 and Plate 29 below).⁷

**NUPTIAL BIRTHS (FIRST CONFINEMENTS) PER 100 BRIDES AGED LESS THAN 45 YEARS
BY YEAR OF MARRIAGE, DURATION 0-7 MONTHS AND 8-11 MONTHS**

Per 100 brides

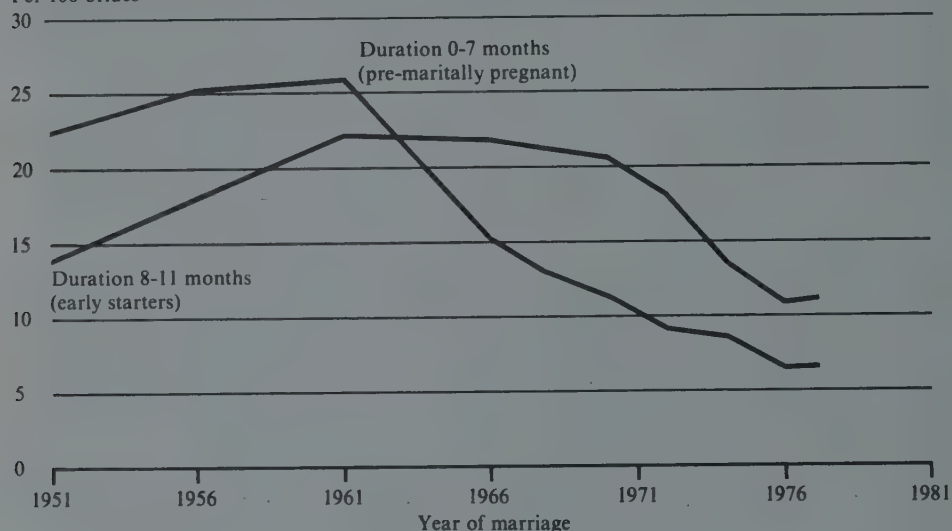


PLATE 29

TABLE 5. MEDIAN AGE AT FIRST MARRIAGE OF WOMEN

Year of marriage	Median age (years)	Generations born in	Median age (years)
1936-40	23.7	1915	24.3
1941-45	22.9	1920	22.8
1946-50	22.4	1925	22.5
1951-55	22.1	1930	21.9
1956-60	21.6	1935	21.5
1961-65	21.3	1940	21.4
1966-70	21.0	1945	21.6
1971-75	21.0	1950	21.4
1976	21.2	1955	21.6
1977	21.4	1956	21.9
1978	21.6	1957	22.6

The rising proportions of married women at younger ages until the recent years had resulted in extended periods of exposure to marital fertility. The women born in 1918 had spent, between aged 16 and 25 years, on average 2.8 years or 28 per cent of that life span in marriage.

TABLE 6. PROPORTION OF TIME SPENT AS MARRIED BETWEEN AGE 16 AND A GIVEN AGE. GENERATIONS BORN IN 1918 TO 1958

Generation born in	Percentage of time between age 16 and given age spent as married (b)				
	20	25	30	35	40
1918	7.4	28.1	45.0	55.3	61.9
1925	9.6	32.5	49.3	59.3	65.5
1930	11.7	38.1	54.5	63.7	69.2
1935	14.0	41.5	57.1	65.8	70.8
1940	15.3	42.4	57.9	66.2	..
1945	14.8	42.4	57.5	..	..
1950	16.5	43.9	..	..	..
1953	16.8	41.5	..	..	..
1958	13.0	..	..	..	..

(a) Proportion (percentage) of time spent as married between age 16 and given age is estimated as follows:

$$T_m^x = \left(100 \frac{\sum_{16}^x Ma}{Wa} \right) / (x-15)$$

Where: Ma is the number of currently married women aged (a) of a particular generation, and
Wa is the number of all women aged (a) of the same generation.

(b) Because currently married women are used in the estimation, the result allows for the effects of marriage dissolution (by divorce or widowhood), but not for the effect of mortality of the women themselves.

The 1950 generation was exposed to marital childbearing for almost twice as long as the 1918 generation, namely 4.4 years or 43.9 per cent of its life span between those ages. The recent decline in first marriage rates at ages under 20 years is reflected in the figures for the 1958 generation in Table 6. Between the ages of 16 and 20 years the proportion of time spent in marriage dropped to 13 per cent for the generation born in 1958 (in contrast to 16.8 per cent recorded by the generation born in 1953).

Changes in the length of time in marriage have important effects on the completed fertility of the women. Pregnancies before marriage, in turn, affect the propensity to marry and age at marriage. To isolate the interrelatedness of marriage and fertility, we need to examine the fertility experience of marriage cohorts. Marriage cohorts are aggregates of persons married in the same year or period of time.

The study of fertility of marriage cohorts poses several problems in Australia where overseas migration is an important element of population growth. The original number of marriages of a given year, which forms the denominator for the calculation of marriage-duration specific fertility rates, is likely to be depleted in time by divorce and widowhood, and to a negligible extent, by death of wives. In addition some couples may leave the country after marriage, others married overseas may arrive and have their children in Australia. The number of registered births by marriage duration will thus become less related to the original size of the marriage cohort as marriage durations increase. To reduce this error in the estimation of marital fertility rates, we calculated in Table 7 such rates only for durations of up to 10 years. Even then, the changes in the measure of fertility at durations 5-9 years should be interpreted with caution.⁸

TABLE 7. PATTERN OF CHILDBEARING OF SELECTED MARRIAGE COHORTS: MARRIAGES FOR THE YEARS 1951-1973

	Year of marriage							
Characteristics	1951	1956	1961	1966	1968	1970	1972	1973
1. Number of brides(a)	73,718	68,032	72,727	91,718	101,766	111,211	109,007	107,563
2. Pregnant at the time of marriage(b)	10,253	12,222	16,037	19,887	21,450	22,767	19,667	16,805
3. First birth conceived after marriage and delivered within the first year of marriage	14,193	14,052	14,639	10,834	10,327	9,898	8,174	7,748
Percentage: pre-maritally pregnant	13.9	18.0	22.1	21.7	21.1	20.5	18.0	15.6

TABLE 7. PATTERN OF CHILDBEARING OF SELECTED MARRIAGE COHORTS: MARRIAGES FOR THE YEARS 1951-1973—*continued*

Characteristics	Year of marriage							
	1951	1956	1961	1966	1968	1970	1972	1973
Per cent of brides whose first child was conceived after marriage and born within the first year of marriage(c)	22.4	25.2	25.8	15.1	12.9	11.2	9.1	8.5
Births (cumulative) by marriage duration 10 years:								
birth order: 1	63,763	63,971	68,542	84,313	92,441	..	..	..
2	52,831	53,238	57,279	71,623	77,252	..	..	..
3	32,070	34,238	33,203	33,092	32,386	..	..	..
4	14,455	15,439	12,630	9,064	7,916	..	..	..
Births per 1,000 marriages by marriage duration 10 years:								
birth order: 1	865	940	942	919	908	..	..	..
2	717	782	788	781	759	..	..	..
3	435	503	456	361	318	..	..	..
4	196	227	174	99	78	..	..	..
Parity progression ratios within 10 years of marriage(d)								
M-1	.86	.94	.94	.93	.91	..	..	..
1-2	.83	.83	.84	.85	.84	..	..	..
2-3	.61	.64	.58	.46	.42	..	..	..
3-4	.45	.45	.38	.27	.24	..	..	..
Births (cumulative) by marriage duration 5 years:								
birth order: 1	59,197	59,542	64,144	77,538	84,505	88,997	81,681	77,479
2	37,754	39,995	42,548	47,683	50,719	50,884	44,660	41,491
3	10,743	13,741	11,929	10,326	9,617	7,849	6,330	5,912
Births per 1,000 marriages by marriage duration 5 years:								
birth order: 1	803	875	882	845	830	800	749	720
2	512	588	585	520	498	458	410	386
3	146	202	164	113	94	71	58	55
Parity progression ratios within 5 years of marriage(d)								
M-1	.80	.88	.88	.84	.83	.80	.75	.72
1-2	.64	.67	.66	.62	.60	.57	.55	.54
2-3	.28	.34	.28	.22	.19	.15	.14	.14

(a) Brides aged less than 45 years;

(b) Estimated as the first nuptial confinements within marriage duration 0-7 months;

(c) $(3) \div (1) - (2)$

(d) Probability that within the given marriage duration a woman of parity N will have a child of parity (N + 1); parity progression ratios M-1 give the probability of having a first birth within the given marriage duration; 1-2 are probabilities of women with one previous live birth having the second live birth; 2-3 are probabilities of women with two previous live births having the third live birth.

The discussion of the data in Table 7 may be subdivided for convenience into three sections: pre-marital pregnancies, childbearing early in marriage, and spacing of births and limitation of family size.

(i) Pre-marital pregnancies.

Of the brides marrying in any given year, a certain proportion is pregnant. This proportion is generally highest among the very young brides and steeply declines with increasing age at marriage.

TABLE 8. PERCENTAGE OF PREGNANT BRIDES (a) BY YEAR OF MARRIAGE

Age at marriage	Year of marriage								Per cent decline from 1960-64
	1960-64	1965-69	1970-71	1972	1973	1974	1975	1976	
16 or less	(b) 64	(b) 64	(b) 63	58	54	48	48	48	-25
17	59	60	57	51	48	43	38	39	-28
18	45	43	39	34	27	22	19	18	-60
19	30	28	25	21	17	14	12	12	-60
20	22	20	17	14	12	10	9	9	-59
21	13	12	11	10	9	8	7	7	-46
22	13	11	11	10	9	8	7	7	-46
23	12	11	10	10	9	8	8	7	-42
24	12	10	10	9	9	8	8	8	-33
25	10	10	10	9	9	8	8	9	-10

(a) Pregnant brides are defined as those who delivered their first child within marriage durations zero to seven completed months.

(b) Age at marriage 16 years.

Among the brides marrying in the 1960s the proportion pregnant reached 64 per cent of those aged 16 years and between 10 and 13 per cent among those aged 21 years and older. In the early 1970s the percentage of pregnant brides declined at all ages but in particular among those aged 18-20 years.⁹ Presumably, the contraceptive revolution of the 1960s and, in the 1970s, easier access to legal interruption of unwanted pregnancies reduced the number of marriages that were earlier prompted by such pregnancies.¹⁰

It may be conjectured with some justification that a part of the decline in the marriage rates at ages under 20 years in the late 1970s was due to the reduction in the number of 'forced' marriages occurring because of pregnancy. By 1977, of the 98,551 brides aged less than 45 years about 10,986 or 11.1 per cent were pregnant (not shown in table). It may thus be estimated that, assuming pre-marital sexual mores remained unchanged, the reduction in the incidence of pre-marital pregnancies resulted in a deferment of about 10,000 marriages in 1977.

(ii) Childbearing early in marriage:

The incipient deferment of the first birth can be traced back to the marriages of the mid-1960s. As Table 9 shows, women married in about 1958-63 started their childbearing early after marriage; about 40 per cent had their first child during the first year after marriage, more than 60 per cent by the end of the second year of marriage, and more than 75 per cent by the end of the third year. Since the marriages of the mid-1960s, each subsequent marriage cohort deferred the first birth. Of those women married in 1970 only 30 per cent had their first child during the first year, 50 per cent within two years and 64 per cent within three years after marriage. Of the most recent marriage cohort that can be traced for such a period (women married in 1975) only 19, 37 and 50 per cent had their first child within marriage durations of 0, 1 and 2 completed years respectively. The pattern of childbearing within marriage has thus changed considerably.

TABLE 9. CUMULATIVE PERCENTAGE OF MARRIED WOMEN WHO HAD THEIR FIRST NUPTIAL CONFINEMENT BEFORE THE END OF A GIVEN YEAR OF MARRIAGE

Percentage of married women aged under 45 years of age at marriage								
Year of marriage	Premaritally pregnant(a)	Having the first nuptial confinement before the end of a given year of marriage duration(b)						Number of brides aged under 45 years
		1	2	3	4	5	10	
1951	13.9	33.2	59.5	70.6	76.6	80.3	86.4	73,718
1952	14.7	34.7	60.7	71.8	77.9	81.7	87.8	70,659
1953	15.7	35.7	61.9	73.3	79.7	83.5	89.9	67,114
1954	16.2	36.0	62.1	73.5	80.0	83.8	90.1	67,585
1955	16.8	36.9	63.5	75.0	81.3	85.1	91.7	68,564
1956	18.0	38.6	65.7	77.2	83.5	87.4	93.9	68,032
1957	18.1	38.5	64.7	75.6	81.8	85.6	91.7	69,983
1958	18.8	39.4	65.5	76.2	82.3	86.0	92.0	70,395
1959	19.8	40.6	66.8	77.6	83.6	87.1	92.8	70,553
1960	21.1	41.8	67.5	78.3	84.4	88.1	93.8	71,679
1961	22.0	42.2	66.9	77.9	84.3	88.2	94.2	72,727
1962	22.5	40.9	64.4	75.9	82.8	87.0	93.2	75,176
1963	23.3	40.0	62.8	75.3	83.1	87.8	94.4	77,031
1964	23.0	37.3	59.3	72.5	80.9	86.2	93.1	82,025
1965	22.0	34.6	55.7	69.4	78.4	83.9	91.1	89,377
1966	21.7	33.5	54.6	69.1	78.7	84.6	91.9	91,718
1967	21.4	32.5	53.6	68.3	78.2	84.2	91.5	95,474
1968	21.1	31.2	51.9	67.0	77.1	82.9	90.8	101,766
1969	20.3	29.6	50.5	65.3	75.3	81.3	89.7	107,798
1970	20.5	29.4	49.5	63.7	73.7	80.0	..	111,211
1971	19.8	28.1	46.5	60.6	70.6	77.0	..	112,817
1972	18.0	25.5	43.7	57.9	68.0	74.9	..	109,007
1973	15.6	22.8	41.0	54.7	64.8	72.0	..	107,563
1974	13.4	20.6	38.0	51.5	61.7	..	..	105,759
1975	12.2	19.3	36.9	50.5	..	..	..	98,951
1976	10.9	18.0	35.0	..	..	..	..	103,108
1977	11.1	17.6	..	..	..	..	..	98,551

(a) Premaritally pregnant = wives who delivered their first child within marriage durations of 0 to 7 completed months.

(b) Include premarital pregnancies.

To a certain extent, the timing of the first birth is lengthened by the reduced incidence of premarital conceptions leading to marriage; but those who were not pregnant at marriage also postponed the first child. Of the brides married in 1951 who were not pregnant, 22 per cent conceived and delivered their first child within a year after marriage. This proportion rose to over 26 per cent among brides married in 1961 but since then has been continuously declining. In the 1973 marriages it dropped to 8.5 per cent (*see* Table 7 page 170 and Plate 30 page 123); and by 1977, it had dropped to 7.3 per cent (not shown in table). The deferment of the first birth by the marriage cohorts of the 1970s is considerable compared with previous cohorts of the early 1960s.

It is worth noting that the postponement did not commence as a consequence of the economic recession of the recent years but occurred since the early 1960s. It has become more common and longer in subsequent years.

An indirect estimate of the interval between marriage and the first birth within the first five years of marriage shows that this interval has substantially lengthened by more than 13 months between those married in 1961 and those married in 1973.

AGES BY WHICH 25 PER CENT, 50 PER CENT AND 75 PER CENT OF A GIVEN GENERATION OF WOMEN HAD EVER MARRIED

Age

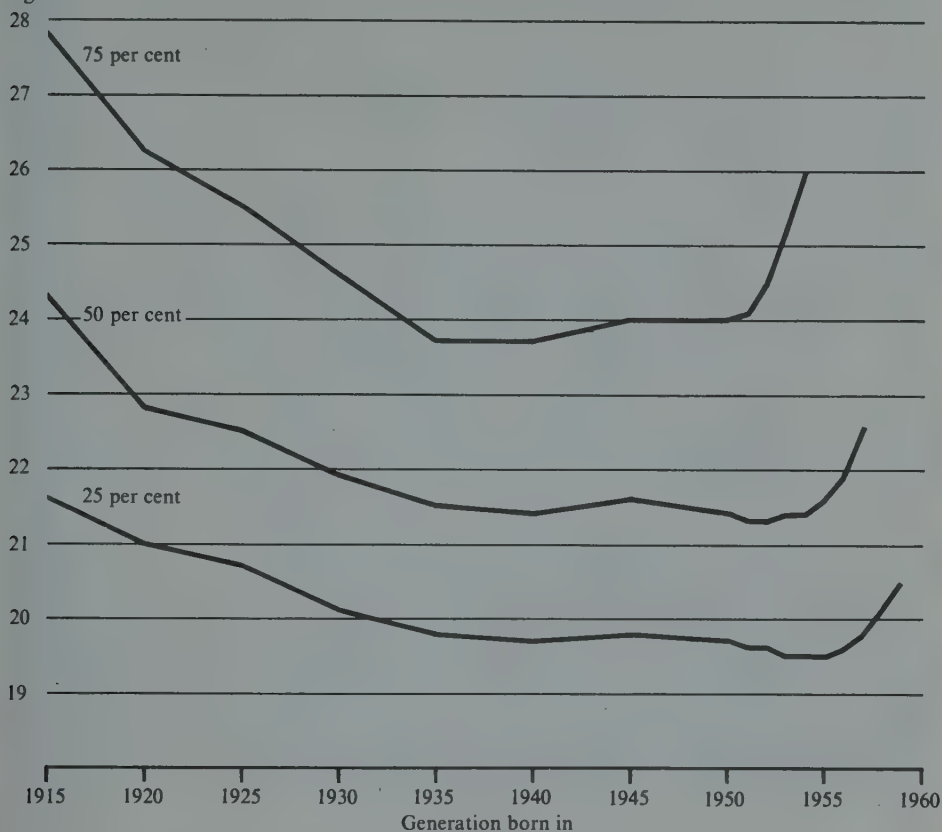


PLATE 30

TABLE 10. ESTIMATES OF THE AVERAGE INTERVAL (MONTHS) BETWEEN MARRIAGE AND FIRST BIRTH AND BETWEEN SUBSEQUENT BIRTHS FOR WOMEN MARRIED IN 1951-73 WHO HAD THEIR FIRST BIRTH WITHIN 5 YEARS OF MARRIAGE AND WITHIN TEN YEARS OF MARRIAGE

Average interval (months) between	Year of marriage							
	1951	1956	1961	1966	1968	1970	1972	1973
WITHIN 5 YEARS OF MARRIAGE								
Marriage and first birth	22.6	20.2	19.3	24.3	25.4	27.0	30.4	32.5
First birth and second birth	30.8	28.1	28.6	29.0	29.2	30.4	30.5	30.2
Second birth and third birth	33.2	29.3	35.2	37.6	38.5	44.4	47.3	47.0
WITHIN 10 YEARS OF MARRIAGE								
Marriage and first birth	26.2	23.4	22.4	27.4	28.7	..	..	..
First birth and second birth	33.1	30.8	31.7	31.9	32.2	..	..	..
Second birth and third birth	36.7	32.9	40.8	45.0	51.8	..	..	..
Third birth and fourth birth	30.4	29.5	36.2	39.0	44.1	..	..	..

Note: The method of estimation utilises the parity progression ratios presented in Table 7, page 120. For a description of the method see N. B. Ryder, 'The emergence of a modern fertility pattern: United States 1917-66', in S. J. Behrman et al. (eds.) *Fertility and Family Planning*, University of Michigan Press, 1969, pp. 99-123.

(iii) Spacing of births and limitation of family size:

The average number of children born to married women slightly increased from 2.7 for the generation born in 1918–23 to 3.0 for the generation born in 1933–38 (see Table 3 page 116). Women who at the time of the 1976 Census were married for 15–24 years (marriage cohorts 1951–61) had an average 2.8 to 3.0 children.¹¹ From the various indices shown in Table 7 page 120, it appears that they achieved such comparatively high fertility by early marriage, by early start of childbearing and by rather high proportions having the third child after the second child (61 and 64 per cent of marriage cohorts 1951 and 1956 respectively) and after the third proceeding to having the fourth child (45 per cent) within the first ten years of marriage. Births to these cohorts were spaced comparatively closely, within 2 to 2½ years on average.

Within the same marriage duration of ten years, the marriage cohorts of the 1960s still maintained the same progression to the first and second births (91–94 and 84–85 per cent respectively) but the likelihood of a third or even fourth birth within that period dropped considerably to 42 and 24 per cent respectively.¹² Comparing the marriage cohorts of 1956 and 1968, the interval between marriage and first birth and between the first and second birth increased by about 6 and 2 months respectively but for those who proceeded to higher parities it rose by almost 20 months (from 33 to 52 months between parities 2 and 3), and 15 months (from 29 to 44 months between parities 3 and 4). The marked postponement of the first birth among the more recently married women makes the likelihood very slim of a second and third birth within a comparatively short duration of marriage (5 years in the second part of Table 7 page 120). Of the 'early starters' married in 1951–61 two thirds had the second birth and close to one third of the latter had the third birth within 5 years of marriage. Among the 1973 marriages only 72 per cent had the first child within the same marriage duration, 54 per cent of these had the second child, but only 14 per cent of wives with two previous births had the third one. It is worth noting, however, that those who had the first child and proceeded to have the second one did so with not much delay: the interval between the first and second birth was between 28 and 31 months (on average) for 1951–61 marriage cohorts and 30 to 31 months for 1970–73 marriage cohorts.

The high fertility marriages of the mid-1950s had on average 1,665 births per 1,000 marriages after 5 years of marriage (52.6 per cent were first births, 35.3 second births and 12.1 per cent third births). Of the 1973 marriages at the end of the same duration there were only 1,161 births per 1,000 marriages (62.1 per cent first births, 33.2 per cent second and 4.7 per cent third births). If the same pattern of childbearing were maintained in the 1973 marriages as that of the 1956, the 107,563 married women would have had 179,092 births by 1978 rather than the recorded 124,882. Are the 55,000 births the 1973 marriages failed to have during the years 1973–78 likely to be compensated for in the future?

The answer to this question depends on the underlying causes of the deferment of births and on the reproductive intentions of those women who decided not to start a family soon after marriage.

The future prospects

So far, we have attempted to demonstrate that the recent decline in the annual number of births, crude birthrates and age-specific birthrates has been due to the postponement of childbearing after marriage, the decline in the incidence of pre-marital pregnancies and the postponement of marriage itself. We have argued that the completed family sizes for generations have not fluctuated as sharply as time-period fertility rates and that time period fertility measures are affected to a greater extent by changes in the timing of births rather than by changes in the completed family size.

With the current low mortality (97.8 per cent of female births survive to at least the age of 30 years) and assuming 90 per cent of women of a given generation would be married before the age of 35, it can be shown that an average number of 2.35 children for ever-married women is the minimum necessary for generational replacement. (This average could be further reduced, probably to 2.25 to 2.30 on account of the children born outside marriage at current levels of ex-nuptial fertility.) When the average family size is small, on average about two children, this can be easily achieved even if marriage and childbearing are postponed to the woman's late twenties or even early thirties.

What is the future prospect of a continued drop in completed family size and further postponements of marriages and births? Or will there be a reversal of current trends? Answers to these questions are complex and they relate to views and attitudes towards marriage, childbearing and the family. Do the statistical trends presented so far represent the results of a radical and permanent change in attitudes toward marriage and childbearing, particularly among the younger generations? Do these trends indicate a general acceptance in society of de facto arrangements which may become formalised in marriage when the couples living together want to have children? Have desired family sizes changed?

There is little evidence that views and attitudes concerning marriage and childbearing have changed drastically in the 1970s. The 1971 and 1977 Melbourne Survey of Family Formation by the Australian National University¹³ confirmed that most married women rejected childlessness and having one child only; on the other hand, very large families of five and more children were considered undesirable by an overwhelming majority of the respondents.

In the 1971 Melbourne Survey, childless or one-child marriages were desired by only two per cent of couples; some nine per cent said they would be prepared to consider childlessness but almost half of them only in extreme circumstances. In contrast, 66 per cent considered two or three children as being the ideal family size.¹⁴

In the 1977 Melbourne Survey, 3 different groups were interviewed: never married males and females, recently married couples, and a follow up revisit of some of the 1971 sample.

The 1977 survey shows that there was a strong concentration on the two child family as ideal. This was particularly pronounced by comparing the answers of the women interviewed both in 1971 and 1977.

TABLE 11. PERCENTAGE DISTRIBUTION OF ANSWERS TO THE QUESTION ON IDEAL FAMILY SIZE: RESPONDENT'S CATEGORIES

	<i>1977 never married</i>		<i>1977 recently married</i>	<i>1977 re-visit</i>	<i>1971 interview</i>
	<i>Males</i>	<i>Females</i>			
Q: Generally speaking, what do you think is the ideal number of children for a couple living in Australia to have? That is, about the right number of children for most people?					
None	0.4	1.9	—	—	—
One	1.1	0.5	0.2	0.4	0.0
Two	37.7	38.8	45.7	50.7	26.6
Three	19.9	16.4	17.1	21.8	34.9
Two or three	17.4	15.4	15.9	10.0	7.4

The surveys quoted so far are not representative of the Australian population at large. They reflect views and attitudes of a metropolitan community. Similar in content but based on a representative national sample of respondents were two surveys of *Birth Expectations of Married Women* conducted by the ABS in November 1976 and June 1979.¹⁵ Both were conducted as a supplement to the regular Labour Force Survey. Questions were directed to women under the age of 40 (in 1976) or 45 (in 1979) who were married, widowed or divorced. The married women were asked how many more children they expect to have and when they expect the next child to be born. From all women information was obtained about the birth date and sex of each child.

TABLE 12. AVERAGE NUMBER OF CHILDREN ALREADY BORN AND EXPECTED PER MARRIED WOMEN 1976 AND 1979

Age	Average number of children					
	Already born		Expected		Total	
	1976	1979	1976	1979	1976	1979
Under 20	0.5	0.5	1.8	2.0	2.3	2.5
20-24	0.8	0.8	1.5	1.7	2.3	2.4
25-29	1.7	1.6	0.7	0.8	2.4	2.4
30-34	2.4	2.3	0.2	0.2	2.6	2.5
35-39	2.8	2.7	—	0.1	2.9	2.7

TABLE 13. NUMBER AND PER CENT OF WOMEN EXPECTING MORE CHILDREN BY AGE AND BY CHILDREN ALREADY BORN, 1979(a)

Age group	Married women with two children ('000)			Married women with three children or more ('000)		
	Expecting more	Not expecting more	Per cent not expecting more	Expecting more	Not expecting more	Per cent not expecting more
15-24 . .	18.5	31.6	63	2.3	8.8	79
25-34 . .	57.0	267.0	82	23.9	214.0	90
35-44 . .	4.3	216.6	98	4.3	355.9	99

(a) Excludes women who did not know their birth expectations and women who were expecting more children but were uncertain of the number.

The average expected number of children of married women in the two surveys remained relatively stable, between 2.3 and 2.9. In both surveys, younger married women reported lower expectations. It is likely that the expectation of the older wives was conditioned by the family size they already had (Table 12). Close to two-thirds of the younger married women (under 25 years of age) with two children in 1979 did not expect to have more children, and almost 80 per cent of those with three or more children intended to stop childbearing. The proportions rise with age and almost all married women 35-44 years of age considered their existing family size of two and three children as completed (Table 13).

Expectations of additional children were dependent partially on the sex composition of those children already born to a woman. Among married women who had had two children of the same sex, 18.4 per cent expect a third child. This compares with 9.1 per cent among those who had had a boy and a girl.¹⁶

Those married women who had yet to start their families appeared to have a strong tendency to defer the first birth. The expected interval between marriage and the first birth (Table 14) confirms the findings based on vital registration data analysed in the preceding sections. It is worth noting that older childless married women expected to postpone their first births considerably longer than younger ones and, some of them would eventually remain childless or have only one child.

TABLE 14. ACTUAL AND EXPECTED INTERVAL BETWEEN MARRIAGE AND THE FIRST BIRTH, 1979

Age	Married women with one or more children	Married women with no children
	Interval between marriage and first birth (months)	Expected interval between marriage and first birth (months)
15-19 . . .	9.5	39.7
20-24 . . .	18.6	51.1
25-29 . . .	26.6	64.1
30-34 . . .	28.5	74.8

Source: Birth Expectations of Married Women, June 1979, (Tables 13 and 15)

Conclusion

One of the many difficulties in the study of fertility trends is that we are dealing with both social and economic changes and their interaction at the same time. Deferment of the first birth undoubtedly preceded the onset of the economic recession, but the decline of the marriage rates almost certainly post-dates the beginning of the current economic recession.

None of the surveys suggests major shifts away from marriage and towards childlessness. The change appears to be in the direction of further concentration of preferred family size to two children and the deferment of childbearing after marriage. With efficient contraceptive methods available and the possibility of abortion, it is likely that such small family goals are within the families' realistic expectations. It may be expected that generational fertility will approach levels that will be only marginally above or even below replacement level. At this level of generational fertility, fluctuations in time-period birth rates and the number of births can be expected to be a feature for the near future while the intensity of these fluctuations will be dictated by changes in the age structure of the population and in the timing of marriage and of the first birth. If the current postponements of marriage and of the first birth are stabilised or reduced, we will see a short-term rise in the number of births and in the birthrates; but these increases will not be long lasting and a stabilisation of the rates will occur when the new pattern of marriage and childbearing is established.

Notes

- 1 For a detailed description of the work of the Royal Commission and the population debate of this period, see Neville Hicks, *This Sin and Scandal*, Australian National University, Press, 1978.
- 2 Report of the 18th Session of the National Health and Medical Research Council, 1944. See also Helen Ware (ed), *Fertility and Family Formation*, Department of Demography, Australian National University, 1972, p. 8-9.
- 3 The First Report of the *National Population Inquiry*, 1975, Vol. 1, p. 277-280.
- 4 Australian Bureau of Statistics, *Australian Demographic Statistics Quarterly, December Quarter 1979 and March Quarter 1980*, p. 5. Also L. T. Ruzicka and J. C. Caldwell, *The End of Demographic Transition in Australia*, Department of Demography, Australian National University, 1977.
- 5 For a description of fertility patterns and trends before 1970, see W.D. Borrie, 'Recent trends and patterns in fertility in Australia' *Journal of Biosocial Science*, Vol. 1, 1969, pp. 51-70. See also National Population Inquiry, *First Report*, 1975, Vol 1, Chapter 2.
- 6 The proportion of high order births (parity 4 and above) declined from 23 per cent of all nuptial births in 1961 to 9 per cent in 1978, while second and third births increased from 46 per cent to 52 per cent in the same period.
- 7 P. F. McDonald, *Marriage in Australia: Age at first marriage and proportions marrying in Australia, 1860-1971*, Department of Demography, Australian National University, 1974. 'Marriage and Divorce in Australia' Chapter 9 of *Population of Australia*, ESCAP Country Monograph, Bangkok, (in Press).
- 8 In an ABS Demography Research paper, Geraldine Spencer compiled detailed measures of marital fertility for marriages 1920-21 to 1976-78. *Fertility of Australian Marriages*, Demography Research paper, Australian Bureau of Statistics, October 1979.
- 9 The decline in pre-marital pregnancies has been accompanied by a similar decline in ex-nuptial fertility. Although the number of ex-nuptial births has increased slightly and as a proportion of all births also increased, ex-nuptial birthrates per 1,000 non-married women have declined since 1971. For a detailed discussion of ex-nuptial fertility and pre-marital pregnancies, see L. T. Ruzicka, 'non-marital pregnancies in Australia since 1947' *Journal of Bio-Social Science*, Vol. 7, 1975, pp. 113-132, also 'Pre-marital pregnancies Australia', *Journal of Marriage and the Family*, 1977, pp. 387-395.
- 10 For details about the prevalence of and changes in fertility control in Australia, see J. C. Caldwell, 'Fertility Control', Chapter 11 of *Population of Australia*, ESCAP Country Monography, Bangkok (in press). Also F. Yusuf, 'use of contraception among married women in New South Wales, Australia', *Journal of Bio-social science*, Vol. 12, 1980, pp. 41-49.
- 11 ABS, 1976 Census, Population and Dwellings: Summary Tables, (2417.0), Tables 36 to 38.
- 12 Using parity specific fertility rates and assuming an interval of 2 years between parities, Geraldine Spencer of the ABS calculated parity progression ratios for the period 1911-20 to 1972. These ratios show a rather stable progression from the first birth to the second birth of around 82-86 per cent since the 1950s and a gradual decline of the progression ratios for higher order births. 'Projecting Australia's Fertility', *Australian Journal of Social Issues*, 1974, Vol. 9, No. 4, pp. 273-284. See also Australian Bureau of Statistics, *Projections of the Population of Australia*, (3204.0), August 1979.
- 13 Both the surveys were conducted by the Department of Demography, Australian National University, Canberra. The results reported here were published in J. C. Caldwell, Family Size Norms, in H. Ware, *Fertility and Family Formation: Australasian Bibliography and Essays*, Monograph No. 1, Australian Family Formation Project, Demography Department, Australian National University, Canberra 1973 pp. A3-A13.
- 14 H. Ware, The Limits of Acceptable Family Size: Evidence from Melbourne, Australia. *Journal of Biosocial Science*, Vol. 5, 1973, pp. 309-328.
- 15 C. M. Young, Spacing of children and changing patterns of childbearing. *Journal of Biosocial Science*, Vol. 9, 1977, pp. 201-226.
- 16 Australian Bureau of Statistics, *Birth Expectations of Married women*, November 1976 and June 1979. (3215.0)
- 16 Australian Bureau of Statistics, *Birth Expectations of Married women*, June 1979, (3215.0) Table 16.

CHAPTER 7

PRICES

RETAIL PRICES AND PRICE INDEXES

Retail prices of food and groceries and average rentals of houses have been collected by the Australian Statistician for the years extending back to 1901 and, in some cases, by the Statisticians of various States for earlier years.

Retail prices of a more extensive range of commodities (including clothing) and certain services in common demand have been ascertained at frequent and regular intervals since 1923. (Comparable information was ascertained for the month of November in each year from 1914 to 1922.) The range of items for which retail prices data is obtained was considerably expanded in 1948 and in later years. Average retail prices of certain food and grocery items in the relevant periods were published in the annual *Labour Report* (now discontinued).

An explanation of the nature and purposes of retail price indexes is given in the various editions of the annual *Labour Report*, together with further particulars of indexes current at the time. The current retail price index, the Consumer Price Index, was published for the first time in August 1960 and was compiled retrospectively to the September quarter 1948. A description of the Consumer Price Index (CPI) is given below. For a more complete description of the CPI, readers are referred to a booklet entitled *A Guide to the Consumer Price Index* which is available from the Australian Bureau of Statistics (ABS) on request.

The Consumer Price Index

Introduction

The Consumer Price Index measures quarterly changes in the price of a 'basket' of goods and services which account for a high proportion of expenditures by metropolitan wage and salary earner households. This 'basket' covers a wide range of goods and services, arranged in the following groups: Food; Clothing; Housing; Household equipment and operation; Transportation; Tobacco and alcohol; Health and personal care; and Recreation. Each group is, in turn, divided into sub-groups.

Index numbers at the *Group* and *All Groups* levels are published each quarter for each State capital city and Canberra, for the weighted average of six State capital cities and for the weighted average of seven capital cities. *Sub-group index numbers* are also published for the weighted average of six State capital cities.

Items in the Food Group of the CPI are priced each month and the Food Group Index is compiled and published monthly. (Indexes for other groups are not compiled monthly.)

As from August 1978 monthly indexes for the Food Group and its sub-groups have been published for Darwin (see *Consumer Price Index, Monthly Food Group Index, Darwin (6413.0)*). Indexes have been calculated retrospectively to February 1975 for the Food Group and some sub-groups. The Food Group is the only Group for which data are collected and compiled in respect of Darwin.

Index population

The CPI measures price changes affecting a high proportion of *metropolitan employee households*. *Employee households* are defined as those households which obtain at least three-quarters of their total income from wages and salaries but excluding the top 10 per cent (in terms of income) of such households. *Metropolitan* means the State Capital cities and Canberra.

Weighting pattern

There are 105 expenditure classes (i.e. groupings of like items) within the current CPI and each expenditure class has its own weight, or measure of relative importance. In calculating the index, price changes for the various expenditure classes are combined using these weights.

Changes in the weighting pattern have been made at approximately five-yearly intervals to take account of changes in household spending patterns. The CPI, in fact, comprises nine series of price indexes which have been linked to form a continuous series. The ninth series (i.e. the current series) was introduced as from the September quarter 1976 and its weighting pattern is based on estimated expenditures in 1974-75 obtained from the first household expenditure survey conducted by the ABS. Details of the weighting pattern are published in the booklet *A Guide to the Consumer Price Index*.

The CPI 'basket' of goods and services covers items which are considered representative of metropolitan household spending habits and whose prices can be associated with an identifiable and specific quantity of a commodity or service. For instance, price changes for a given quantity and quality of bread or refrigerators can be measured and included in the CPI. Income taxes and personal savings, on the other hand, do not form part of the CPI because they cannot be clearly associated with the purchase of a specific quantity of a good or service.

Price collection

Since the CPI is designed to measure the impact of changing prices on metropolitan wage and salary earner households, price movements are monitored in the kinds of retail outlets or other establishments where such households would normally purchase goods and services. This involves collecting prices from many sources including supermarkets, department stores, footwear stores, restaurants, garages, dental surgeries and hairdressers. Items such as bus, rail and air fares, electricity and gas charges, telephone charges and local authority rates are collected from the appropriate authorities. Information on rents is obtained from property management companies. In total, around 80,000 separate price quotations are collected each quarter.

Food items are priced at the middle of each month except in the case of some fresh items (fruit, vegetables and fish) where prices are collected more frequently and averaged to obtain monthly prices. Most of the other CPI items are priced quarterly, usually at the middle of the mid-month of the quarter (February, May, August and November). However, to smooth out collection workloads, some items are collected during the first month of each quarter. Some items, such as local authority rates, need to be priced only once a year.

The prices used in the CPI are those that any member of the public would have to pay on the pricing day to purchase the specified good or service. Any sales or excise taxes which the consumer must pay when purchasing specific items are included in the CPI price. Sale prices, discount prices and 'specials' are reflected in the CPI so long as the items concerned are of normal quality (i.e. not damaged or shop soiled) and are offered for sale in reasonable quantities. To ensure that the price movements reflect the experience of the bulk of the metropolitan population, the brands and the varieties of the items which are priced are generally those which sell in greatest volume.

Changes in quality

The CPI aims to measure the price change of a constant basket of goods and services over time. For this reason, efforts are made to ensure that identical or equivalent items are priced in successive time periods. This involves evaluating changes in the quality of goods and services included in the index, and removing the effects of such changes so that the index reflects only the price change.

Periodic revision of the CPI

The CPI is periodically revised in order to ensure it continues to reflect current conditions. CPI revisions have usually been carried out at approximately five-yearly intervals. Following each revision the new list of items and weights (i.e. the new CPI basket) is linked to the previous series to form one continuous series. The process of linking ensures that the continuous series reflects only price variations and not differences in costs of the old and new baskets.

Earlier CPI series

The index has been compiled for each quarter from the September quarter 1948. The above description of the CPI refers to the ninth series which was introduced as from the September quarter 1976. A description of earlier CPI series is contained in the *Labour Report* No. 58, 1973, and in previous issues of the Year Book.

**CONSUMER PRICE INDEX: ALL GROUPS INDEX
SIX STATE CAPITAL CITIES AND CANBERRA**

(Base of each index: Year 1966-67=100.0) (a)

<i>Period</i>	<i>Weighted average of six State capital cities</i>	<i>Sydney</i>	<i>Mel- bourne</i>	<i>Brisbane</i>	<i>Adelaide</i>	<i>Perth</i>	<i>Hobart</i>	<i>Canberra</i>	<i>Weighted average of seven capital cities</i>
Year—									
1974-75 . . .	171.1	176.1	167.9	168.7	169.7	166.1	166.7	164.9	171.0
1975-76 . . .	193.3	199.0	189.5	190.9	190.5	189.6	190.0	187.3	193.3
1976-77 . . .	220.0	223.4	216.6	218.0	220.1	219.4	217.7	212.9	219.9
1977-78 . . .	241.0	243.2	238.2	238.4	241.8	243.1	239.1	232.3	240.9
1978-79 . . .	260.7	264.4	256.8	258.0	259.7	262.8	257.7	251.1	260.6
1979-80 . . .	287.2	292.4	282.5	283.0	285.8	287.4	284.0	278.0	287.0
Quarter—									
1978-79—									
March . . .	262.6	266.7	258.4	259.3	261.3	264.3	260.0	252.8	262.4
June . . .	269.6	274.3	265.3	265.2	267.9	271.4	267.0	260.5	269.4
1979-80—									
September . .	275.8	280.4	272.2	271.2	273.3	276.2	273.6	267.1	275.7
December . . .	284.1	288.5	279.7	279.7	283.6	285.4	281.2	274.3	283.9
March . . .	290.3	296.2	284.6	287.1	288.9	290.4	287.0	281.3	290.1
June . . .	298.4	304.4	293.3	293.9	297.3	297.7	294.1	289.2	298.3

(a) The separate city indexes measure price movements within each city individually. They do not compare price levels between cities.

**CONSUMER PRICE INDEX: GROUP INDEXES
WEIGHTED AVERAGE OF SIX STATE CAPITAL CITIES**

(Base of each index: Year 1966-67=100.0 unless otherwise noted)

<i>Period</i>	<i>Food</i>	<i>Clothing</i>	<i>Housing</i>	<i>Household equipment and operation</i>	<i>Transport- ation</i>	<i>Tobacco and alcohol</i>	<i>Health and personal care(a)</i>	<i>Recreation (b)</i>	<i>All groups</i>
Year—									
1974-75 . . .	164.0	173.0	187.4	153.8	173.0	170.4	186.5	(c)	171.1
1975-76 . . .	180.2	201.0	221.1	178.3	203.8	211.1	151.6	(c)	193.3
1976-77 . . .	201.2	232.5	251.8	196.3	221.9	229.8	265.8	104.1	220.0
1977-78 . . .	223.2	257.4	274.6	212.6	240.1	240.0	318.3	113.4	241.0
1978-79 . . .	248.8	276.3	292.5	225.9	262.7	277.4	301.7	120.7	260.7
1979-80 . . .	283.6	295.1	314.3	244.2	296.5	300.5	329.6	131.2	287.2
Quarter—									
1978-79—									
March . . .	251.3	276.6	294.3	227.8	265.8	286.5	285.4	121.7	262.6
June . . .	263.4	284.8	299.9	230.5	274.1	290.4	289.3	124.0	269.6
1979-80—									
September . .	271.7	288.6	304.5	235.7	284.4	293.9	293.8	125.2	275.8
December . . .	277.5	292.9	311.3	240.7	294.7	297.5	335.3	129.4	284.1
March . . .	288.9	295.2	316.8	247.0	296.5	302.8	340.6	133.8	290.3
June . . .	296.2	303.7	324.5	253.4	310.3	307.9	348.8	136.2	298.4

(a) Base: December quarter 1968=100.0
prior to September quarter 1976.

(b) Base: September quarter 1976=100.0.

(c) New grouping not compiled for quarters

**CONSUMER PRICE INDEX: GROUP INDEXES
SIX STATE CAPITAL CITIES AND CANBERRA**

(Base of each index: Year 1966-67 = 100.0 unless otherwise noted) (a)

<i>Year</i>	<i>Sydney</i>	<i>Melbourne</i>	<i>Brisbane</i>	<i>Adelaide</i>	<i>Perth</i>	<i>Hobart</i>	<i>Canberra</i>
FOOD							
1974-75	166.3	161.7	164.8	163.7	160.9	158.6	161.7
1975-76	181.8	177.8	180.8	180.6	180.2	177.5	181.3
1976-77	200.2	198.9	201.7	205.8	205.5	201.5	201.5
1977-78	220.1	220.9	222.6	229.7	235.6	224.3	221.6
1978-79	247.7	245.8	245.7	253.0	260.2	251.3	249.0
1979-80	284.3	278.8	284.6	285.5	290.7	286.8	283.9
CLOTHING							
1974-75	174.1	172.0	171.5	173.8	174.2	171.8	172.3
1975-76	201.0	200.4	200.0	203.6	202.3	200.9	200.9
1976-77	231.9	232.4	230.4	236.5	232.9	232.5	232.4
1977-78	256.4	257.7	254.6	261.2	258.6	257.1	253.7
1978-79	275.1	276.5	272.7	282.1	277.0	277.2	272.4
1979-80	293.8	295.0	291.5	301.9	295.9	297.6	290.5
HOUSING							
1974-75	199.2	180.6	176.4	185.3	174.2	180.9	163.3
1975-76	233.7	214.0	202.9	222.1	209.7	216.4	194.1
1976-77	264.5	242.6	236.0	253.8	244.5	244.9	224.0
1977-78	288.7	263.1	260.9	275.1	269.5	264.6	240.4
1978-79	313.0	276.1	278.5	288.6	282.3	278.1	250.1
1979-80	344.1	291.7	297.2	309.2	292.9	293.7	262.5
HOUSEHOLD EQUIPMENT AND OPERATION							
1974-75	160.8	147.2	156.5	149.2	154.5	156.4	145.0
1975-76	186.5	169.5	181.7	173.1	184.1	183.9	166.1
1976-77	205.5	188.0	197.7	190.0	198.9	201.8	183.9
1977-78	220.7	204.2	213.8	207.0	217.9	222.0	199.2
1978-79	232.2	218.5	228.8	219.6	233.4	235.9	213.4
1979-80	248.9	238.6	243.5	239.8	251.6	257.2	235.6
TRANSPORTATION							
1974-75	184.6	164.4	171.4	171.9	158.2	165.3	166.4
1975-76	220.0	194.1	199.7	196.2	184.9	196.7	196.9
1976-77	231.7	216.8	219.6	215.5	206.2	220.7	216.6
1977-78	248.6	236.7	233.8	234.8	224.9	241.6	236.3
1978-79	273.0	256.9	257.0	257.2	249.5	256.5	256.2
1979-80	307.2	292.8	288.1	288.4	278.7	291.5	293.7
TOBACCO AND ALCOHOL							
1974-75	170.1	173.7	166.3	167.0	167.6	169.4	162.9
1975-76	214.3	214.0	200.9	206.2	206.4	206.3	194.3
1976-77	236.6	229.3	217.4	224.6	226.3	222.0	213.1
1977-78	245.2	241.7	227.5	233.8	237.6	232.2	224.5
1978-79	282.8	277.9	271.6	264.8	277.2	268.4	255.9
1979-80	308.1	302.2	287.9	283.8	299.7	289.1	279.2
HEALTH AND PERSONAL CARE(b)							
1974-75	186.8	188.1	175.8	191.3	188.2	174.1	189.8
1975-76	152.3	149.3	164.1	144.0	156.6	138.5	156.9
1976-77	246.8	266.1	296.1	274.7	308.1	250.3	263.3
1977-78	294.7	321.5	353.6	326.4	365.7	302.6	316.8
1978-79	286.0	307.4	315.6	302.3	337.0	292.2	311.0
1979-80	316.5	327.0	333.8	340.2	385.5	319.8	343.1

CONSUMER PRICE INDEX: GROUP INDEXES
SIX STATE CAPITAL CITIES AND CANBERRA—continued

(Base of each index: Year 1966-67=100.0 unless otherwise noted) (a)

Year	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Canberra
RECREATION(c)							
1976-77	104.4	103.7	104.1	103.8	104.3	103.6	104.3
1977-78	113.5	113.0	114.8	113.5	113.5	110.2	112.9
1978-79	119.7	120.5	123.4	122.6	120.8	118.7	120.3
1979-80	130.1	131.1	133.9	132.5	131.3	128.5	130.5

(a) The index numbers are designed to measure movements in retail prices of specified groups of items for each city individually. They measure variations from time to time and not differences in price levels between cities. (b) Base: December quarter 1968=100.0.

(c) Base: September quarter 1976=100.0.

Previous retail price indexes

Five series of retail price indexes were compiled by the ABS at various times prior to the introduction of the Consumer Price Index in 1960. These indexes are described in Year Book No. 61.

An index of retail price movements from 1901 onwards has been derived by linking together the following indexes: from 1901 to 1914, the 'A' Series Retail Price Index; from 1914 to 1946-47, the 'C' Series Retail Price Index; from 1946-47 to 1948-49, a composite of Consumer Price Index Housing Group (partly estimated) and 'C' Series Index excluding Rent; and from 1948-49 onwards, the Consumer Price Index. The continuous series derived in this way is shown in the table below. As the indexes differ greatly in scope, the resulting series is only a broad indication of long-term trends in retail prices.

RETAIL PRICE INDEX NUMBERS: SIX STATE CAPITAL CITIES COMBINED, 1901 TO 1979

(Base: Year 1911=100)

Year	Index number	Year	Index number	Year	Index number
1901	88	1927	166	1953	383
1902	93	1928	167	1954	386
1903	91	1929	171	1955	394
1904	86	1930	162	1956	419
1905	90	1931	145	1957	429
1906	90	1932	138	1958	435
1907	90	1933	133	1959	443
1908	95	1934	136	1960	459
1909	95	1935	138	1961	471
1910	97	1936	141	1962	469
1911	100	1937	145	1963	472
1912	110	1938	149	1964	483
1913	110	1939	153	1965	502
1914(a)	114	1940	159	1966	517
1915(a)	130	1941	167	1967	534
1916(a)	132	1942	181	1968	548
1917(a)	141	1943	188	1969	564
1918(a)	150	1944	187	1970	586
1919(a)	170	1945	187	1971	621
1920(a)	193	1946	190	1972	658
1921(a)	168	1947	198	1973	720
1922(a)	162	1948	218	1974	829
1923	166	1949	240	1975	954
1924	164	1950	262	1976	1,083
1925	165	1951	313	1977	1,216
1926	168	1952	367	1978	1,313
				1979	1,432

(a) November

**INDEX NUMBERS OF CONSUMER (RETAIL) PRICES IN VARIOUS COUNTRIES
ALL GROUP INDEXES^(a)**

(Source: *Monthly Bulletin of Statistics* of the Statistical Office of the United Nations)
(Base of each index: Year 1970 = 100)

Period	Australia (b)	Canada	Federal Republic of Germany	Indonesia (Djakarta) (c)	Japan	New Zealand	United Kingdom	United States of America
1974	142	129	127	205	154	142	148	127
1975	163	143	135	244	172	163	184	139
1976	185	153	141	292	188	190	215	147
1977	208	165	146	324	204	218	249	156
1978	224	180	150	351	211	244	270	168
1979	244	197	156	135	219	277	306	187
Quarter—								
1978—								
Dec	231	186	151	360	214	253	277	174
1979—								
March	235	190	153	381	213	259	286	178
June	241	195	155	129	218	271	296	184
Sept	247	199	157	139	221	289	316	191
Dec	254	203	158	142	224	295	325	196
1980—								
March	260	208	161	n.a.	229	297	340	203

(a) The items priced and the levels at which they are priced in these indexes vary widely according to the intended purposes of the indexes of the various countries. The index numbers show fluctuations in prices in each country and do not measure relative price levels between countries. (b) Consumer Price Index converted to base: 1970 = 100. (c) From March 1979—revised figures, base April 1977–March 1978 = 100.

Wholesale price indexes

Introduction

The ABS compiles a range of Wholesale Price Indexes relating to materials used and articles produced by defined sectors of the Australian economy. Each index is calculated using fixed weights. In compiling the indexes, prices are collected from representative suppliers, manufacturers or exporters of the goods included in the indexes. Prices are generally collected as at the mid-point of each month except in the case of the *Price Index of Materials Used in Manufacturing Industry* and *Export Price Index*, for which average monthly prices are mainly used.

All indexes are compiled and published monthly. Published index numbers for financial years are simple averages of the relevant monthly index numbers. Annual index numbers for most of the indexes are shown below. Monthly index numbers, together with more detailed information concerning methods used in compiling these indexes, are shown in the monthly bulletins published for each index. Information on the weighting patterns for each index is available from the ABS on request.

Price index of materials used in house building

This index measures changes in prices of selected materials used in the construction of houses. Its composition reflects the usage of materials in houses which were selected as representative for the purpose. Weights are based on the year 1968–69. The reference base of the index is the year 1966–67 = 100.0. Further information concerning the method of compiling the index, as well as more detailed index numbers, is shown in the publications *Price Index of Materials Used in House Building* (6408.0), *Labour Report* No. 58, 1973 and *Year Book* No. 60.

PRICE INDEX OF MATERIALS USED IN HOUSE BUILDING
GROUP INDEX NUMBERS—WEIGHTED AVERAGE OF SIX STATE CAPITAL CITIES
 (Base of each index: Year 1966-67=100.0)

	Concrete mix, cement and sand	Cement products	Clay bricks, tiles, etc.	Timber, board and joinery	Steel products	Other metal products
<i>Value Weight</i>	5.73%	8.10%	12.85%	36.16%	5.86%	7.20%
1974-75	165.7	193.1	180.3	203.5	192.1	170.3
1975-76	195.1	227.0	205.1	226.2	229.3	187.1
1976-77	217.8	258.9	227.8	254.1	263.2	207.9
1977-78	239.0	284.6	245.8	275.0	287.7	220.1
1978-79	255.5	303.8	262.2	290.8	307.6	239.7
1979-80	292.9	336.3	294.8	331.5	341.0	281.7

	Plumbing fixtures, etc.	Electrical instal- lation materials	Installed appli- ances	Plaster and plaster products	Miscel- laneous materials	All groups
<i>Value weight</i>	3.74%	1.63%	5.13%	5.64%	7.96%	100.00%
1974-75	174.5	168.3	146.4	147.8	161.5	183.4
1975-76	201.5	183.5	165.9	167.7	187.9	208.1
1976-77	224.3	201.8	181.9	178.8	210.7	232.9
1977-78	239.1	215.5	193.3	191.8	230.4	252.0
1978-79	244.1	240.0	202.9	204.3	248.2	268.1
1979-80	278.1	282.1	217.6	222.8	278.2	302.9

PRICE INDEX OF MATERIALS USED IN HOUSE BUILDING
ALL GROUPS INDEX NUMBERS—SIX STATE CAPITAL CITIES
 (Base of each index: Year 1966-67=100.0)

	<i>State capital cities(a)</i>						<i>Weighted average of six State capital cities</i>
	<i>Sydney</i>	<i>Melbourne</i>	<i>Brisbane</i>	<i>Adelaide</i>	<i>Perth</i>	<i>Hobart</i>	
1974-75	189.4	178.4	187.0	195.4	172.4	179.1	183.4
1975-76	211.1	200.1	218.5	222.5	201.9	209.2	208.1
1976-77	234.5	223.6	243.5	250.7	229.8	235.1	232.9
1977-78	254.0	238.6	265.1	270.7	253.4	256.7	252.0
1978-79	272.7	251.4	281.3	292.1	268.2	273.6	268.1
1979-80	309.5	283.4	315.0	338.5	299.4	304.2	302.9

(a) The separate city indexes measure price movements within each city individually. They do not compare price levels between cities.

Price index of materials used in building other than house building

This index measures changes in prices of selected materials used in the construction of buildings other than houses and 'low-rise' flats (the latter being, in general, those up to three storeys high). Weights are based on the year 1966-67. The reference base of the index is the year 1966-67=100.0.

Further information concerning the method of compiling the index, as well as more detailed index numbers for each capital city, is shown in the publications *Price Index of Materials Used in Building Other than House Building* (6407.0), *Labour Report* No. 58, 1973 and *Year Book* No. 60.

**PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING
GROUP INDEX NUMBERS—WEIGHTED AVERAGE OF SIX STATE CAPITAL CITIES**

(Base of each index: Year 1966-67=100.0)

	Concrete mix, cement, sand, etc.	Cement products	Bricks, stone, etc.	Timber, board and joinery	Steel and iron products	Aluminium products
<i>Value weight</i>	10.41%	3.64%	5.28%	11.90%	30.58%	6.01%
1974-75	164.6	183.9	179.4	194.7	189.2	169.2
1975-76	193.0	220.0	202.7	219.3	223.4	193.6
1976-77	215.6	244.7	224.0	243.6	251.7	213.7
1977-78	235.3	268.4	241.0	263.2	273.4	230.8
1978-79	254.8	285.2	256.6	278.8	291.9	244.6
1979-80	294.1	319.0	289.0	313.2	325.1	280.5

	Other metal products	Plumbing fixtures	Miscellaneous materials	Electrical installation materials	Mechanical services components	All groups
<i>Value weight</i>	2.59%	1.19%	7.09%	8.61%	12.70%	100.00%
1974-75	162.7	197.7	163.4	157.4	181.3	179.2
1975-76	173.3	232.1	186.8	177.4	201.3	206.2
1976-77	195.0	251.2	204.2	199.6	225.4	230.3
1977-78	198.1	263.7	221.9	215.3	247.2	249.7
1978-79	228.4	260.2	234.2	242.6	268.2	268.1
1979-80	285.3	299.6	262.4	285.4	298.2	303.0

**PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING
ALL GROUPS INDEX NUMBERS—SIX STATE CAPITAL CITIES**

(Base of each index: Year 1966-67=100.0)

	<i>State capital cities(a)</i>						<i>Weighted average of six State capital cities</i>
	<i>Sydney</i>	<i>Melbourne</i>	<i>Brisbane</i>	<i>Adelaide</i>	<i>Perth</i>	<i>Hobart</i>	
1974-75	176.0	180.6	186.6	181.0	176.7	179.3	179.2
1975-76	199.0	209.4	216.3	210.4	208.3	210.4	206.2
1976-77	221.5	234.8	241.2	234.3	235.4	234.8	230.3
1977-78	239.9	254.4	260.9	254.2	258.3	253.7	249.7
1978-79	259.2	271.4	278.6	274.4	276.8	270.5	268.1
1979-80	293.4	306.6	313.4	314.3	309.7	301.8	303.0

(a) The separate city indexes measure price movements within each city individually. They do not compare price levels between cities.

Price index of materials used in manufacturing industry

This index measures changes in prices of materials (including fuels) used by establishments classified to the Manufacturing Division of the Australian Standard Industrial Classification (ASIC), as described in the ABS publication *Australian Standard Industrial Classification (Preliminary Edition) 1969* (1201.0). The index is on a *net basis*, i.e. it relates in concept only to those materials which are used by establishments within the Manufacturing Division in Australia and which have been produced by establishments outside that Division. Materials purchased by establishments classified to the Australian Manufacturing Division from other establishments in that Division are outside the scope of the index.

The reference base of the index is the year 1968-69=100.0. The weighting base of the index corresponds to the year 1971-72. The items included in the index were allocated weights in accordance with estimated manufacturing usage in 1971-72 valued at relevant prices applying in the reference base year 1968-69. The selected items are combined for publication purposes into broad groups using two different classifications:

- (i) Australian Standard Industrial Classification (ASIC), and
- (ii) Standard International Trade Classification (SITC (R)).

Further information concerning the method of compiling the index, as well as more detailed index numbers, is shown in the publications *Price Index of Materials Used in Manufacturing Industry, Australia* (6411.0) and Year Book No. 61.

**PRICE INDEX OF MATERIALS USED IN MANUFACTURING INDUSTRY: GROUP INDEX NUMBERS
BASED ON AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION**

(Base of each index: Year 1968-69=100.0)

Value weight	Imported materials				Home produced materials					All groups
	Agri- culture	Mining	Manu- facturing	Total imported materials	Agri- culture	Forestry and fishing	Mining	Elec- tricity	Total home produced materials	
	1.92%	4.17%	21.07%	27.16%	47.04%	1.12%	18.92%	5.76%	72.84%	100.00%
1974-75	149.3	357.8	149.5	181.5	132.2	187.8	129.0	124.6	131.6	145.1
1975-76	166.5	423.6	162.6	202.9	132.3	213.7	163.3	137.9	142.0	158.6
1976-77	258.6	479.5	182.1	233.2	152.5	245.2	189.2	148.8	163.2	182.2
1977-78	303.4	515.3	201.6	257.0	162.4	273.5	211.4	160.9	176.7	198.5
1978-79	285.3	542.6	222.1	275.7	228.8	263.5	281.8	173.8	238.7	248.8
1979-80	329.2	911.8	261.8	366.4	280.3	300.3	402.9	186.7	305.0	321.7

**PRICE INDEX OF MATERIALS USED IN MANUFACTURING INDUSTRY: GROUP INDEX NUMBERS
BASED ON STANDARD INTERNATIONAL TRADE CLASSIFICATION (REVISED)**

(Base of each index: Year 1968-69=100.0)

	Manufactured materials (imported)			Other materials (imported and home produced)			
	Chemicals	Metal manu- factures, components for transport equipment and machinery	Other manufactured materials	Food, live animals and tobacco	Crude materials (excl. fuels)	Electricity, gas and fuels	All groups
Value weight	6.67%	5.21%	5.76%	45.87%	20.66%	15.83%	100.00%
1974-75	141.9	148.7	137.4	132.4	149.3	179.5	145.1
1975-76	149.4	179.6	148.4	132.5	163.0	229.1	158.6
1976-77	160.3	211.6	164.5	154.9	191.7	254.8	182.2
1977-78	170.7	246.6	185.1	166.6	199.2	291.0	198.5
1978-79	180.9	271.6	201.3	232.5	227.4	362.4	248.8
1979-80	225.1	294.2	230.3	285.1	288.2	554.6	321.7

Price indexes of articles produced by manufacturing industry

These indexes measure changes in the prices of articles produced by establishments classified to the Manufacturing Division of the Australian Standard Industrial Classification (ASIC). The indexes are on a *net* basis, i.e. they relate in concept only to those articles which are produced in defined sectors of Australian manufacturing industry for sale or transfer to other sectors or for export or for use as capital equipment. Articles which are sold or transferred to other establishments within the sector for further processing (as materials, components, fuels, etc.) are excluded.

The following sector price indexes are published:

- a net index for the Manufacturing Division of ASIC (known as the *All Manufacturing Industry Index*), and
- net indexes for the twelve sub-divisions within the Manufacturing Division.

The reference base of the index is the year 1968-69=100.0. The weighting base of the index corresponds to the year 1971-72. The items included in these indexes were allocated weights in accordance with estimated *net* sector production in the year 1971-72, valued at the relevant prices applying in the reference base year 1968-69.

The selected items are combined for publication purposes using the structure of the Australian Standard Industrial Classification.

Further information concerning the method of compiling the index and monthly index numbers for sub-divisions and special groupings are shown in the publication *Price Indexes of Articles Produced by Manufacturing Industry, Australia* (6412.0). Further information about the indexes is also shown in Year Book No. 62.

PRICE INDEXES OF ARTICLES PRODUCED BY MANUFACTURING INDUSTRY (a)
(Base of each index: Year 1968-69=100.0)

Net subdivision indexes (c)							
Year	All Manu- facturing Industry Index (b)	Food, beverages and tobacco (21-22)	Textiles (23)	Clothing and footwear (24)	Wood, wood products and furniture (25)	Paper, paper products and printing (26)	Chemical, petroleum and coal products (27)
1974-75	158.1	153.0	142.4	161.3	190.0	168.5	142.4
1975-76	177.8	163.5	159.7	185.2	219.9	196.3	168.2
1976-77	196.9	180.0	178.6	208.1	246.8	212.8	182.4
1977-78	213.8	195.6	193.3	225.2	264.0	231.7	200.7
1978-79	237.4	226.4	205.1	238.4	280.4	245.0	233.1
1979-80	274.9	266.5	228.8	255.3	315.5	269.6	307.4

Year	Glass, clay and other non- metallic mineral products (28)	Basic metal products (29)	Fabricated metal products (31)	Transport equipment (32)	Other industrial machinery and equipment and household appliances (33)	Miscellan- eous manu- facturing products (34)
1974-75	158.3	151.9	183.2	151.2	158.9	143.7
1975-76	183.2	174.0	217.1	175.8	179.2	159.0
1976-77	202.5	200.6	244.9	195.0	199.4	176.0
1977-78	219.8	214.0	268.7	211.6	215.3	192.4
1978-79	236.8	237.2	287.7	230.2	232.2	209.8
1979-80	265.2	282.7	323.9	252.2	261.3	252.5

(a) For a full description of Division C, 'Manufacturing' and the subdivisions within Manufacturing Division, see *Australian Standard Industrial Classification (ASIC), Preliminary Edition*, 1969. (b) This index is on a net division basis and relates in concept only to articles which are produced in the Manufacturing Division of ASIC for sale or transfer outside the Division. (c) These indexes are on a 'net subdivision' basis; the index for each subdivision relates in concept to articles which are produced in that subdivision for sale or transfer outside the subdivision.

EXPORT PRICE INDEXES

An annual index of export prices has been published by the bureau since its inception. Brief descriptions of indexes covering the period between 1901 and 1979 are shown in Year Book No. 55, pages 256-7 and Year Book No. 58, pages 240-2.

Export price index

The revised Export Price Index was introduced in July 1979. It relates to *all exports of merchandise* from Australia and includes re-exports of merchandise (that is, goods which are imported into Australia and exported at a later date without physical transformation). The index numbers for each month relate to prices of those exports of merchandise that are physically shipped from Australia during that month.

The reference base of the index is the year 1974-75 = 100. The commodities directly represented in the index were selected on the basis of their export values in the years 1974-75, 1975-76 and 1976-77. They were allocated weights in accordance with the average value of exports for each commodity over the period 1974-75 to 1976-77. The 1975-76 and 1976-77 export values for each commodity were revalued at 1974-75 prices before averaging.

The selected commodities are combined for publication purposes into broad index groups using two different classifications:

- (i) Australian Export Commodity Classification, 1978-79 (AECC), (1203.0);
- (ii) Australian Standard Industrial Classification, 1978 (ASIC), (1201.0).

Further information concerning the method of compiling the index can be obtained from the July 1979 issue of the publication *Export Price Index* (6405.0) and Year Book No. 64. More detailed index numbers are shown in the monthly publication *Export Price Index, Australia* (6405.0).

EXPORT PRICE INDEX:
INDEX NUMBERS BASED ON AUSTRALIAN EXPORT COMMODITY CLASSIFICATION (AECC)
 (Base of each index: Year 1974-75=100)

<i>AECC Sections</i>						
<i>Year</i>	<i>All groups</i>	<i>Food and live animals (0)</i>	<i>Crude materials inedible (except fuels) (2)</i>	<i>Mineral fuels and lubricants (3)</i>	<i>Animal and vegetable oils and fats (4)</i>	<i>Chemicals and other manufactured exports (5, 6, 7 and 8)</i>
1974-75	100	100	100	100	100	100
1975-76	109	97	115	144	98	101
1976-77	122	98	141	156	117	118
1977-78	128	100	149	167	136	125
1978-79	144	119	162	170	157	146
1979-80	174	145	191	198	169	188

EXPORT PRICE INDEX:
INDEX NUMBERS BASED ON AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION (ASIC)
 (Base of each index: Year 1974-75=100)

<i>ASIC Divisions</i>			
<i>Year</i>	<i>Agriculture, forestry, fishing and hunting (A)</i>	<i>Mining (B)</i>	<i>Manufacturing (C)</i>
1974-75	100	100	100
1975-76	98	130	105
1976-77	106	148	119
1977-78	105	159	127
1978-79	114	163	150
1979-80	137	180	190

Previous wholesale price indexes

The *Melbourne Wholesale Price Index*, first compiled in 1912, was discontinued in 1961. The *Wholesale Price (Basic Materials and Foodstuffs) Index*, which replaced the Melbourne Wholesale Price Index from 1936-37, was discontinued in 1970. Further information concerning these indexes is shown in Year Book No. 61.

References

For further information on the subjects dealt with in the foregoing pages, see the following ABS publications: *Monthly Summary of Statistics, Australia* (1304.0); *Digest of Current Economic Statistics, Australia* (1305.0); *Consumer Price Index* (6401.0); *Consumer Price Index, Monthly Food Group Index, Six State Capital Cities and Canberra* (6402.0); *Average Retail Prices of Selected Items, Six State Capital Cities and Canberra* (6403.0); *Consumer Price Index, Monthly Food Group Index, Darwin* (6413.0); *Price Index of Materials Used in Building Other Than House Building, Six State Capital Cities* (6407.0); *Price Index of Materials Used in House Building, Six State Capital Cities* (6408.0); *Price Index of Materials Used in Manufacturing Industry, Australia* (6411.0); *Price Indexes of Articles Produced by Manufacturing Industry, Australia* (6412.0); *Price Index of Electrical Installation Materials, Australia* (6409.0); *Price Indexes of Metallic Materials, Australia* (6410.0); *Export Price Index, Australia* (6405.0).

PRICES JUSTIFICATION TRIBUNAL

General

The Prices Justification Tribunal was established in August 1973 pursuant to the *Prices Justification Act* 1973. Amendments to the Act occurred in 1974, 1976 and 1979. The functions of the Tribunal are to conduct inquiries in relation to prices for the supply of goods or services, and to report to the Minister the results of every such inquiry.

Organisation

The Tribunal consists of a Chairman and such number of other members as are from time to time appointed in accordance with the Act. The Office of the Prices Justification Tribunal comprises the staff required to assist the Tribunal in the performance of its functions, and consists of persons appointed or employed under the *Public Service Act 1922*.

Further information concerning the Prices Justification Tribunal and its operations is contained in its Annual Reports to Parliament.

Legislative Provisions

Sub-sections 16(2) (a) and (b) of the Prices Justification Act describe the nature of the inquiries that may be undertaken by the Tribunal pursuant to its functions.

Section 16(2) provides that:

'An inquiry under this Part may be either—

- (a) a prices justification inquiry, that is to say an inquiry as to whether the price or prices at which a company or companies (whether a prescribed company or prescribed companies or not) supplies or supply, or proposes or propose to supply, goods or services of a particular description is or are justified and, if the Tribunal is of the opinion that the price or any of the prices is not justified, what lower price for the supply by the company or companies concerned of goods or services of that description would be justified; or
- (b) an inquiry into a matter specified by the Minister in a notice under paragraph 17(1) (b).
(In accordance with sub-section 17(1) (b) of the Act, the Minister may require the Tribunal to conduct an inquiry not being a prices justification inquiry into a specified matter or specified matters relating to the prices at which goods or services are supplied.)'

The Tribunal's enabling legislation also provides for the following:

- (i) The Tribunal has the power to require a company to furnish information or produce documents that are relevant to the making of a decision by the Tribunal whether to hold an inquiry in relation to the company or relevant to an inquiry that is being held in relation to the company.
- (ii) The Tribunal shall before deciding to hold on its own initiative a prices justification inquiry:
 - publish by advertisement in the Australian Government Gazette and in newspapers throughout Australia a notice stating that the Tribunal is considering whether to hold the inquiry and inviting submissions from interested persons on the question whether such an inquiry should be held;
 - serve notice on the company or companies stating that the Tribunal is considering whether to hold the inquiry and inviting submissions on the question;
 - when requested by a company, the Tribunal will hold a conference on the question, allowing persons with a substantial interest in the matter to attend such conference;
 - apply to the Minister for approval to hold the inquiry (this approval is sought in circumstances where the Tribunal, following the receipt of submissions on the question and, as necessary, the holding of a conference, forms the view that a prices justification inquiry should be held. In other cases the Tribunal will notify the company or companies that it will not proceed with the inquiry.)
- (iii) The Tribunal may take up to three months to complete a prices justification inquiry and report and up to four months in other cases. If the Tribunal is of the opinion that a company or any of the companies has failed to provide sufficient information, a further period may be specified by the Tribunal within which to complete its inquiry and report.
- (iv) The Tribunal is empowered to grant an interim price increase which may apply during the course of the Tribunal's considerations of a company's proposed or existing prices.
- (v) Where a prices justification inquiry has been completed, a company or companies may be required to notify the Tribunal of proposed prices for a period of up to twelve months or, with the Minister's approval, for a longer period.

Public Inquiry Procedures

Subject to the Act, the procedures followed at public inquiries are within the discretion of the Tribunal. The present practices observed by the Tribunal are:

- (i) Companies and intending parties to an inquiry are asked to present written submissions by a date prior to the commencement of the inquiry.
- (ii) Evidence at an inquiry is submitted under oath or affirmation.
- (iii) Companies and parties may be asked to read or speak to part or all of their submissions.

- (iv) Questions may be directed by Members of the Tribunal to any witness. No other questioning of witnesses is permitted.
- (v) Confidential submissions and evidence may be taken in private if the Tribunal considers that it is desirable to do so.
- (vi) Following the presentation by companies and parties of all submissions and evidence, the opportunity is provided to them to comment on the submissions and evidence presented by others or, as necessary, to present additional evidence.
- (vii) At the conclusion of the public hearings, the Division specifies a date for the receipt of any additional material. This option may be exercised by a company or party when it is desired to comment on evidence given by others during the course of the hearings or may be used to present new evidence. Such material is made available to the participating companies and parties (not being confidential material), thus providing a further opportunity for comment.

Guidelines and Criteria

The Prices Justification Act provides that in conducting a prices justification inquiry, the Tribunal shall have due regard to the need for the company or companies concerned to achieve a level of profitability that is sufficient to enable the company or companies to maintain an adequate level of investment and employment. No other guideline, as such, is specified in the legislation.

Following the amendments to the Prices Justification Act which were proclaimed in May 1979, greater emphasis has been placed on the Tribunal's price surveillance role. In this regard, an important concern of the Tribunal is with areas of the economy where competition may be weak or absent and where, as a result firms may possess market power or, in other words, some marked degree of independence from competitive forces as to the prices they charge or the output they produce.

Whether firms have discretionary power over the prices they charge, can generally only be determined after an analysis of all the main competitive characteristics of the relevant industry, usually including their number and size, distribution of sellers, entry barriers, competition from substitute or near-substitute products and the extent of vertical integration. Other factors such as the buying power of customers, or the extent to which consumers are informed, often need to be considered.

Activities, 1979-80

During the course of 1979-80 the Tribunal undertook examinations into prices proposed or charged for a number of goods and services, including petroleum products, steel, coffee, aluminium ingot, primary copper bar, tobacco products, stevedoring and petrochemicals.

In addition, the Tribunal produced reports on the prices and margins applying to the manufacture, wholesaling and retailing of processed foods and charges for livestock selling services. An investigation was also commenced into the effects of over-award payments on the prices of processed foods and a six months monitoring programme was set in train to examine the margins applied by major wholesalers and retailers to high turnover and house brand processed foods.

HOUSEHOLD EXPENDITURE SURVEYS

During the financial years 1974-75 and 1975-76, the ABS conducted two surveys in order to obtain information about the expenditure patterns of private households. The 1974-75 survey was confined to a sample of households in the six State capital cities and Canberra (collection in Darwin being suspended in December 1974 due to cyclone Tracy), while the coverage of the 1975-76 survey was extended to include other urban and rural regions. Apart from limited attempts in 1910-11 and 1913 to assess the spending patterns of Australian households, these surveys were the first official collections of household expenditure statistics conducted in this country.

Surveys of household expenditure and related topics have formed an integral part of the statistical programmes of a number of other countries for many years. Perhaps the most important reason for the collection of data relating to expenditure at the household level is to provide information for use in improving the representativeness of the items and the weighting pattern used to compile the Consumer Price Index (*see* page 129). Household expenditure statistics also provide a rich source of data needed for a wide range of policy and research purposes. These include the planning of welfare services; assessing the need for, and effect of, programmes in fields such as housing, education and health; assessing the impact of taxation and government benefits; and improving estimates of private final consumption expenditure in the National Accounts.

Further details about the 1974-75 and 1975-76 surveys are contained in Year Book No. 63, pages 119-123.

CHAPTER 8

MANPOWER

The principal subjects covered in this chapter are the labour force and unemployment, wage rates, earnings, hours of work, industrial disputes and labour organisations. Further detail on these subjects is contained in *Labour Statistics, Australia* (6101.0) and in other publications which are referred to in the various sections of this chapter. Particulars of total civilian employees are not included in this issue, because at the time this chapter was being prepared the series was being revised. For details see *Civilian Employees, Australia* (6213.0). A table showing employees of government bodies at June 1980 is on page 153.

THE LABOUR FORCE

This section contains a number of series relating to the labour force and its components. The labour force comprises two categories of persons: those who are employed and those who are unemployed. In the first category are included employers, self-employed persons, wage and salary earners, and unpaid family helpers. Comprehensive details for each State and Territory and for Australia as a whole in respect of persons in the labour force, classified according to industry, occupation, occupational status (i.e. whether employers, self-employed persons, wage and salary earners or unpaid family helpers) and personal characteristics such as age, sex, marital status and birthplace, are obtained only at a general census of population.

In addition to the population censuses, estimates of the labour force are obtained through the population survey, which is now conducted monthly by means of personal interviews at a sample of households throughout Australia (*see below*). The survey provides particulars of the demographic and labour force characteristics of the population.

The population census

Information about the labour force questions in the population census of June 1976 is contained in the publication *Population and Dwellings: Cross-Classified Tables* (2418.0 to 2426.0). More detailed information about the labour force is available on microfiche and is listed in the *Catalogue of 1976 Census Tables* (2103.0).

The population survey

The population survey is the general title given to the household sample survey which since February 1978 has been conducted monthly in all States and Territories. Although emphasis in the survey is placed on the regular collection of data on demographic and labour force characteristics of the population, supplementary and special surveys of particular aspects of the labour force or of other subjects are carried out from time to time. Statistics from supplementary surveys are released in publications which are available free on request.

The survey is based on a multi-stage area sample of private dwellings (about 30,000 houses, flats, etc.) and non-private dwellings (hotels, motels, etc.), and covers about two-thirds of one per cent of the population of Australia. The information is obtained from the occupants of selected dwellings by carefully chosen and specially trained interviewers, the interviews generally being conducted during the two weeks beginning on the Monday between the 6th and 12th of each month. The information obtained relates to the week before the interview (i.e. the survey week).

The labour force survey

A description of the labour force survey and a selection of principal statistics obtained from it are given in this section. The first Australia-wide labour force survey was carried out in February 1964 and surveys were conducted quarterly until February 1978. Estimates are published in the monthly publications, *The Labour Force, Australia (Preliminary)* (6202.0), *The Labour Force, Australia* (6203.0), and *Unemployment, Australia (Preliminary Estimates)* (6201.0). Comprehensive statistics are published in annual publications entitled *The Labour Force, Australia* (6204.0), *Labour Statistics, Australia* (6101.0) and in *Unemployment, Underemployment and Related Statistics, Australia, February 1978 to February 1980* (6236.0). However, because of recent revisions to survey estimates (*see below*), figures in monthly publications prior to February 1978 and in annual publications to 1977 are not directly comparable with current estimates shown in the following tables.

Scope and definitions

The survey includes all persons aged 15 years and over except members of the permanent defence forces; certain diplomatic personnel of overseas governments, customarily excluded from census and estimated populations; overseas visitors holidaying in Australia; and members of non-Australian defence forces (and their dependants) stationed in Australia.

The labour force category to which a person is assigned depends on his actual activity (i.e. whether working, looking for work, etc.) during the survey week. This is determined from answers given to a set of questions designed for this purpose. For further information see *Information Paper: Questionnaires used in the Labour Force Survey* (6232.0). The following definitions relate only to those persons within the scope of the survey.

Employed persons comprise all those aged 15 years and over who, during the survey week:

- (a) worked for one hour or more for pay, profit, commission or payment in kind in a job or business, or on a farm (including employees, employers and self-employed persons); or
- (b) worked for 15 hours or more without pay in a family business or on a farm (i.e. unpaid family helpers); or
- (c) were employees who had a job but were not at work and were: on paid leave; on leave without pay for less than four weeks up to the end of the survey week; stood down without pay because of bad weather or plant breakdown at their place of employment for less than four weeks up to the end of the survey week; on strike or locked out; on workers' compensation and expected to be returning to their job; or receiving wages or salary while undertaking full-time study; or
- (d) were employers or self-employed persons who had a job, business or farm, but were not at work.

Unemployed persons are those aged 15 years and over who were not employed during the survey week, and

- (a) had actively looked for full-time or part-time work at any time in the four weeks up to the end of the survey week and:
 - (i) were available for work in the survey week, or would have been available except for temporary illness (i.e. lasting for less than four weeks to the end of the survey week); or
 - (ii) were waiting to start a new job within four weeks from the end of the survey week and would have started in the survey week if the job had been available then; or
- (b) were waiting to be called back to a full-time or part-time job from which they had been stood down without pay for less than four weeks up to the end of the survey week (including the whole of the survey week) for reasons other than bad weather or plant breakdown.

The *labour force* comprises all persons who, during the survey week, were employed or unemployed, as defined above.

These definitions conform closely to the international standard definitions specified by the International Labour Organisation (ILO).

Revision of series

The survey estimates are calculated in such a way as to conform to the independently estimated distribution of the population by age and sex. As a consequence, whenever these population benchmarks are revised it becomes necessary to revise the labour force estimates also. Survey estimates in this section are based on revised population estimates derived from the 1971 and 1976 population census results adjusted for under-enumeration. For information concerning these population estimates see *Population and Vital Statistics; June Quarter 1977* (3212.0).

Survey estimates back to August 1966 have been revised to make them comparable with estimates for February 1978 and subsequent months, which have been obtained by using a new sample and revised questionnaire. Revised estimates were first published in the February 1978 issue of *The Labour Force, Australia* (6203.0), which contains information concerning the methods used in the revision. Figures of total population 15 years of age and over for each sex are derived from the official population estimates which, in turn, are based on results of population censuses. However, the population benchmarks used in the survey are revised at infrequent intervals and may differ from official estimates of the population and other demographic statistics. Figures of marital status and all labour force characteristics of these populations are derived from the sample survey data. For this and other reasons, including differences in timing, methods of collection (personal interview in the survey, self-enumeration in the census) and, in some cases, concepts and definitions, the survey estimates of marital status and labour force characteristics may not agree closely with the corresponding census figures. In addition it should be noted that the published census labour force estimates have not been adjusted for any under-enumeration of the population.

Reliability of the estimates

Since the estimates in the following tables are based on information obtained from the occupants of a sample of dwellings, the estimates and the movements derived from them are subject to sampling variability; that is, they may differ from the figures that would have been produced if all dwellings had been included in the surveys. One measure of the likely difference is given by the standard error, which indicates the extent to which an estimate might have varied by chance because only a sample of dwellings was included. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all dwellings had been included, and about nineteen chances in twenty that the difference will be less than two standard errors.

Space does not allow for the separate indication of the standard errors of all estimates in this section. A table of standard errors which is intended to be of general application is therefore given below.

An example of the use of the table is as follows: if the estimate for Australia obtained from the sample is 100,000, the standard error is 3,900; there are then about two chances in three that the true figure is within the range 96,100 to 103,900 and about nineteen chances in twenty that this figure is between 92,200 and 107,800.

STANDARD ERRORS OF ESTIMATES FOR AUSTRALIA

<i>Size of estimate</i>	<i>Number</i>	<i>Per cent of estimate</i>	<i>Size of estimate</i>	<i>Number</i>	<i>Per cent of estimate</i>
4,500	970	21.6	200,000	5,100	2.6
5,000	1,000	20.0	300,000	6,000	2.0
10,000	1,400	14.0	500,000	7,200	1.4
20,000	2,000	10.0	1,000,000	9,100	0.9
50,000	2,900	5.8	2,000,000	11,000	0.6
100,000	3,900	3.9	5,000,000	15,000	0.3

The standard errors of estimates relating to agricultural employment are generally somewhat higher than the standard errors of other estimates of the same magnitude. Estimates for females also tend to have higher standard errors than estimates of equivalent size for males in similar categories.

The reliability of an estimated percentage, computed by using sample data for both numerator and denominator, depends upon both the size of the numerator and the size of the denominator. However, the per cent standard error of the estimated percentage will generally be lower than the per cent standard error of the estimate of the numerator. The per cent standard errors of the numerators can be obtained from the table above.

As the standard errors in the table above show, the smaller the estimate the higher is the relative standard error. Very small estimates are thus subject to such high standard errors (relative to the size of the estimate) as to detract seriously from their value for most reasonable uses. In the following tables, estimates less than 4,500 have not been included. Although figures for these small components can in some cases be derived by subtraction, they should not be regarded as reliable.

The imprecision due to sampling variability, which is measured by the standard error, should not be confused with inaccuracies that may occur because of imperfections in reporting by interviewers and respondents. Inaccuracies of this kind are referred to as the *non-sampling error*, and they may occur in any enumeration, whether it be a full count or only a sample. Every effort is made to reduce the non-sampling error to a minimum by careful design of questionnaires, intensive training and supervision of interviewers and efficient operating procedures.

CIVILIAN POPULATION AGED 15 YEARS AND OVER, BY EMPLOYMENT STATUS(a)

May—	Employed	Unemployed		Total	Labour force	Not in labour force	Civilian population aged 15 years and over	Unemployment rate(b)	Labour force participation rate(c)
		Looking for full-time work	Looking for part-time work						
				—'000—				—per cent—	
MALES									
1975 . .	3,839.4	127.8	16.7	144.4	3,983.8	915.2	4,899.0	3.6	81.3
1976 . .	3,886.9	127.2	14.6	141.8	4,028.6	947.6	4,976.2	3.5	81.0
1977 . .	3,891.5	163.0	21.7	184.7	4,076.2	985.8	5,062.0	4.5	80.5
1978(d) . .	3,863.5	194.8	14.4	209.1	4,072.6	1,087.2	5,159.8	5.1	78.9
1979 . .	3,908.3	197.7	13.0	210.6	4,118.9	1,132.4	5,251.3	5.1	78.4
1980 . .	3,981.2	201.0	18.9	219.9	4,201.1	1,140.6	5,341.6	5.2	78.6
MARRIED WOMEN									
1975 . .	1,289.6	40.8	37.6	78.5	1,368.0	1,964.3	3,332.3	5.7	41.1
1976 . .	1,346.6	32.2	30.8	63.0	1,409.6	1,956.0	3,365.5	4.5	41.9
1977 . .	1,382.0	42.7	31.9	74.6	1,456.6	1,950.4	3,407.0	5.1	42.8
1978(d) . .	1,356.5	49.8	34.1	83.9	1,440.4	1,958.7	3,399.1	5.8	42.4
1979 . .	1,356.3	40.0	32.2	72.2	1,428.5	2,035.9	3,464.4	5.1	41.2
1980 . .	1,394.7	39.5	34.1	73.6	1,468.2	1,992.9	3,461.1	5.0	42.4
ALL FEMALES									
1975 . .	2,012.3	92.2	51.6	143.8	2,156.1	2,845.2	5,001.2	6.7	43.1
1976 . .	2,095.5	86.7	47.4	134.1	2,229.6	2,860.4	5,090.0	6.0	43.8
1977 . .	2,132.7	112.8	56.3	169.1	2,301.8	2,878.4	5,180.2	7.3	44.4
1978(d) . .	2,135.3	136.8	49.3	186.2	2,321.4	2,964.5	5,285.9	8.0	43.9
1979 . .	2,135.0	137.5	48.5	186.0	2,321.0	3,061.3	5,382.3	8.0	43.1
1980 . .	2,256.6	141.6	52.1	193.7	2,450.3	3,027.2	5,477.5	7.9	44.7
PERSONS									
1975 . .	5,851.6	220.0	68.2	288.2	6,139.8	3,760.4	9,900.2	4.7	62.0
1976 . .	5,982.3	213.8	62.0	275.9	6,258.2	3,808.0	10,066.2	4.4	62.2
1977 . .	6,024.2	275.8	78.0	353.8	6,378.0	3,864.2	10,242.2	5.5	62.3
1978(d) . .	5,998.7	331.6	63.7	395.3	6,394.0	4,051.7	10,445.7	6.2	61.2
1979 . .	6,043.3	335.1	61.4	396.6	6,439.9	4,193.6	10,633.5	6.2	60.6
1980 . .	6,237.8	342.6	71.0	413.6	6,651.4	4,167.7	10,819.1	6.2	61.5

(a) For definitions and scope of estimates see page 144. (b) The number of unemployed expressed as a percentage of the labour force (i.e. employed and unemployed) in the same group. (c) The labour force expressed as a percentage of the civilian population aged 15 years and over in the same group. (d) See page 144 for change in timing of survey from February 1978 which may have affected the level of the figures.

**CIVILIAN LABOUR FORCE, BY EMPLOYMENT STATUS, BIRTHPLACE AND
PERIOD OF ARRIVAL IN AUSTRALIA, MAY 1980**

	<i>Employed</i>		<i>Unemployed</i>		<i>Labour force</i>	<i>Unemploy- ment rate(a)</i>	<i>Labour force partici- pation rate(b)</i>
	<i>Full-time</i>	<i>Total</i>	<i>Looking for full-time work</i>	<i>Total</i>			
—'000—							—per cent—
MALES							
Born in Australia	2,737.7	2,894.4	142.6	156.5	3,050.9	5.1	79.2
Born outside Australia	1,043.9	1,086.8	58.4	63.4	1,150.1	5.5	80.2
Arrived before 1961	432.0	446.6	14.6	15.9	462.5	3.4	73.0
1961-1965	169.3	177.6	8.7	9.3	186.9	5.0	89.8
1966-1970	204.4	213.3	14.8	15.8	229.1	6.9	86.1
1971-1978	204.6	214.5	14.7	16.1	230.6	7.0	86.3
Jan. 1979 to May 1980	33.5	34.8	5.6	6.3	41.2	15.4	70.1
MARRIED WOMEN							
Born in Australia	527.9	978.7	24.2	46.2	1,024.9	4.5	40.8
Born outside Australia	268.3	416.0	15.3	27.4	443.4	6.2	47.2
Arrived before 1961	89.6	152.5	*	6.8	159.4	4.3	40.6
1961-1965	47.1	72.5	*	4.7	77.1	6.1	52.3
1966-1970	51.3	82.2	*	5.8	88.0	6.6	50.9
1971-1978	69.9	97.1	4.9	7.8	105.0	7.5	55.7
Jan. 1979 to May 1980	10.4	11.7	*	*	13.9	*	37.7
ALL FEMALES							
Born in Australia	1,111.6	1,703.3	106.2	141.5	1,844.8	7.7	44.9
Born outside Australia	380.5	553.3	35.4	52.2	605.5	8.6	47.1
Arrived before 1961	117.6	186.2	5.9	10.7	196.9	5.4	37.3
1961-1965	67.2	97.0	6.7	9.1	106.2	8.6	53.3
1966-1970	79.8	117.1	7.7	11.8	128.9	9.1	54.1
1971-1978	97.5	131.8	10.8	15.4	147.3	10.5	56.3
Jan. 1979 to May 1980	18.3	21.1	*	5.2	26.3	19.8	45.0
PERSONS							
Born in Australia	3,849.4	4,597.7	248.8	298.0	4,895.7	6.1	61.5
Born outside Australia	1,424.4	1,640.0	93.8	115.6	1,755.6	6.6	64.6
Italy	160.7	176.5	5.7	6.9	183.3	3.8	65.0
Greece	86.3	97.5	8.7	10.2	107.6	9.4	68.2
Yugoslavia	88.2	93.9	7.2	8.7	102.6	8.5	70.2
U.K. and Ireland	513.1	607.2	29.0	38.4	645.7	5.9	62.1
New Zealand	71.1	81.0	5.9	6.9	87.9	7.9	75.1
Other	505.0	584.0	37.5	44.5	628.5	7.1	64.4
Arrived before 1961	549.7	632.8	20.5	26.5	659.3	4.0	56.8
1961-1965	236.5	274.6	15.4	18.4	293.1	6.3	71.9
1966-1970	284.2	330.4	22.5	27.5	357.9	7.7	71.0
1971-1978	302.2	346.3	25.5	31.6	377.8	8.4	71.5
Jan. 1979 to May 1980	51.8	55.9	9.9	11.6	67.5	17.1	57.5

(a) The number of unemployed expressed as a percentage of the labour force (i.e. employed and unemployed) in the same group. (b) The labour force expressed as a percentage of the civilian population aged 15 years and over in the same group. Excludes persons in institutions.

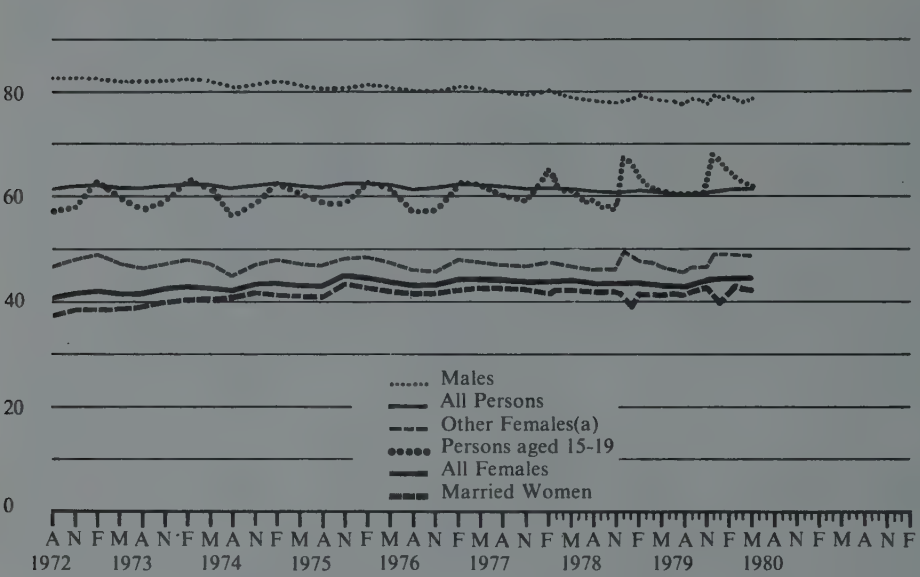
* Less than 4,500 or based on a figure less than 4,500. See page 145.

LABOUR FORCE PARTICIPATION RATES

(The labour force in each group as a percentage of the civilian population aged 15 years and over in the same group.)

Per cent

100



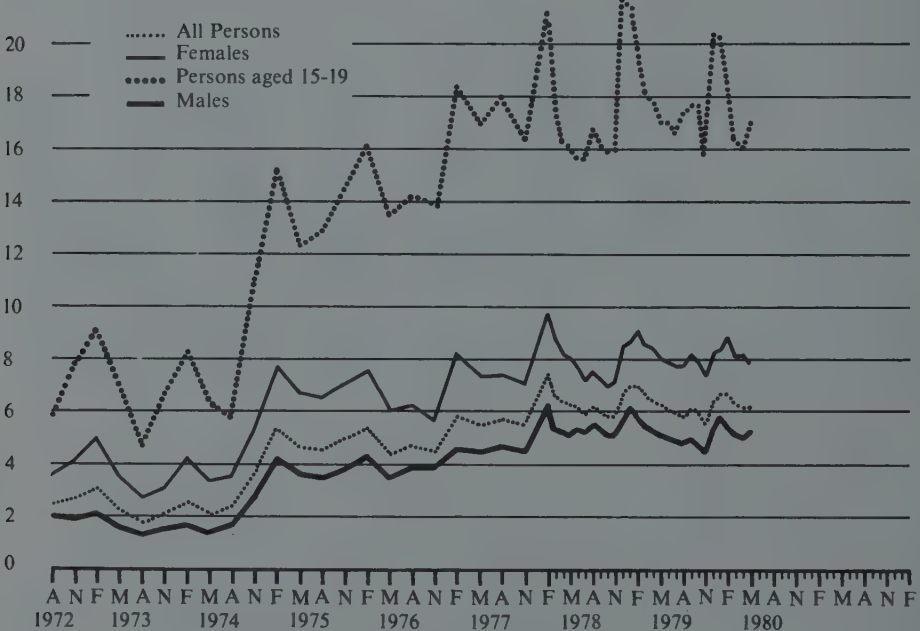
(a) Never married, widowed and divorced.

UNEMPLOYMENT RATES

(The unemployed in each group as a percentage of the civilian labour force in the same group.)

Per cent

22



CIVILIAN LABOUR FORCE, BY AGE, MAY 1980

Age groups (years)	Number ('000)				Labour force participation rate (a) (per cent)			
	Males	Married women	All females	Persons	Males	Married women	All females	Persons
15-19	432.7	16.2	382.0	814.7	66.3	48.3	61.0	63.7
20-24	564.3	165.8	438.7	1,003.1	91.5	57.5	71.7	81.7
25-34	1,112.6	453.6	609.7	1,722.3	95.8	47.2	52.6	74.2
35-44	856.8	431.7	500.1	1,356.9	95.3	56.9	58.2	77.2
45-54	718.2	284.2	348.4	1,066.7	92.4	46.1	47.1	70.3
55-59	299.5	78.1	107.5	406.9	82.6	27.5	29.5	56.0
60-64	152.8	28.3	41.9	194.7	53.6	13.8	13.7	32.9
65 and over	64.1	10.4	22.1	86.2	10.9	3.3	2.7	6.2
Total	4,201.1	1,468.2	2,450.3	6,651.4	78.6	42.4	44.7	61.5

(a) The labour force expressed as a percentage of the civilian population aged 15 years and over in the same group.

EMPLOYED PERSONS BY INDUSTRY AND AVERAGE WEEKLY HOURS WORKED, MAY 1980

Industry	Number ('000)			Average weekly hours worked (a)		
	Males	Females	Persons	Males	Females	Persons
Agriculture and services to agriculture	293.6	88.6	382.2	51.1	29.2	46.0
Forestry, fishing and hunting	22.4	*	25.2	39.5	*	37.0
Mining	73.7	6.6	80.3	31.4	33.9	31.7
Manufacturing	948.8	308.6	1,257.4	38.1	32.4	36.7
Food, beverages and tobacco	140.2	50.6	190.8	36.0	30.6	34.5
Metal products, machinery and equipment	180.0	20.0	200.0	38.6	30.5	37.8
Other manufacturing	628.6	238.0	866.6	38.5	33.0	37.0
Construction	430.2	46.1	476.3	36.8	19.2	35.1
Wholesale and retail trade	735.8	550.7	1,286.6	40.7	29.1	35.7
Transport and storage	280.1	49.3	329.4	38.2	29.9	36.9
Finance, property and business services	283.2	228.9	512.1	38.7	30.8	35.2
Community services	353.0	615.0	968.0	32.6	25.2	27.9
Recreation, personal and other services	166.4	221.2	387.6	40.7	26.6	32.7
Other industries	394.0	138.7	532.7	34.3	30.5	33.3
Total	3,981.2	2,256.6	6,237.8	38.6	28.3	34.9

(a) Figures relate to hours worked, not hours paid for. The figures may be affected by public holidays, leave, absenteeism, absence from work due to sickness, injury, accident, industrial disputes, plant breakdown, etc. * Less than 4,500 or based on a figure less than 4,500. See page 145.

EMPLOYED PERSONS BY OCCUPATION, MAY 1980
('000)

Occupation	Males	Married women	All females	Persons
Professional, technical, and related workers	473.8	230.2	396.7	870.5
Administrative, executive and managerial	350.2	48.8	60.0	410.1
Clerical	316.4	408.2	740.1	1,056.5
Sales	266.6	179.9	305.9	572.5
Farmers, fishermen, timber-getters, etc.	356.1	73.6	89.0	445.1
Transport and communication	276.7	32.2	50.0	326.7
Tradesmen, production-process workers and labourers, n.e.c.; and miners, quarrymen, etc.	1,713.2	167.8	234.0	1,947.2
Service, sport and recreation	228.2	254.0	380.9	609.1
Total employed	3,981.2	1,394.7	2,256.6	6,237.8

**PART-TIME WORKERS: WHETHER PREFERRED TO WORK MORE HOURS AND WHETHER
LOOKING FOR FULL-TIME WORK, BY AGE, MAY 1980**
(^{'000})

	Age group (years)					55 and over	Total
	15-19	20-24	25-34	35-44	45-54		
MALES							
Total	61.3	27.2	28.1	19.9	18.0	45.1	199.6
Preferred not to work more hours	47.9	19.3	21.0	15.6	12.4	40.7	156.9
Preferred to work more hours	13.4	7.9	7.1	*	5.6	*	42.7
Had actively looked for full-time work(a)	5.8	-8.0-		*	*	*	17.8
MARRIED WOMEN							
Total	*	35.0	195.4	195.0	113.1	57.4	598.5
Preferred not to work more hours	*	27.0	175.9	173.9	104.1	55.0	537.8
Preferred to work more hours	*	8.0	19.5	21.1	9.0	*	60.7
Had actively looked for full-time work(a)	*	-6.0-		-5.1-		*	11.5
ALL FEMALES							
Total	79.3	64.3	210.3	208.7	126.7	75.3	764.5
Preferred not to work more hours	58.1	45.0	187.7	184.5	116.4	71.7	663.3
Preferred to work more hours	21.1	19.3	22.7	24.2	10.3	*	101.2
Had actively looked for full-time work(a)	8.9	10.1	*	4.6	*	*	28.7
PERSONS							
Total	140.6	91.5	238.4	228.6	144.6	120.4	964.1
Preferred not to work more hours	106.0	64.3	208.6	200.1	128.7	112.4	820.2
Preferred to work more hours	34.6	27.2	29.8	28.5	15.9	8.0	143.9
Had actively looked for full-time work(a)	14.6	14.4	7.4	6.0	*	*	46.5

(a) In the four weeks up to the end of the survey week. * Less than 4,500. See page 145.

EMPLOYED PERSONS, BY HOURS WORKED (a), MAY 1980
(^{'000})

	<i>Males</i>	<i>Married women</i>	<i>Other females (b)</i>	<i>All females</i>	<i>Persons</i>
Weekly hours worked (a)—					
0(c)	338.0	176.2	75.2	251.4	589.3
1-15	121.0	259.8	93.4	353.2	474.2
16-29	207.6	243.4	80.2	323.6	531.2
30-34	294.8	108.6	74.5	183.1	477.9
35-39	419.5	152.7	160.1	312.8	732.3
40	1,285.5	300.6	267.8	568.4	1,853.8
41-44	219.9	32.6	43.2	75.8	295.7
45-48	336.3	37.6	30.6	68.2	404.5
49 and over	758.6	83.1	37.1	120.2	878.9
Total	3,981.2	1,394.7	862.0	2,256.6	6,237.8

(a) The figures relate to hours worked, not hours paid for. which they were absent for the whole of the survey week.

(b) Never married, widowed or divorced.

(c) Persons who had a job from

**UNEMPLOYED PERSONS, BY INDUSTRY AND OCCUPATION OF LAST FULL-TIME JOB
MAY 1980**

Industry division or sub-division(a)	Unemployment		Occupation group	Unemployment	
	Total (^{'000})	rate(b) (per cent)		Total (^{'000})	rate(b) (per cent)
Had worked for two weeks or more in a full-time job in the last two years	249.0	3.8	Had worked for two weeks or more in a full-time job in the last two years	249.0	3.8
Agriculture and services to agriculture	17.1	4.3	Professional, technical, etc.	13.3	1.5
Manufacturing	65.4	4.9	Administrative, executive and managerial	5.8	1.4
Food, beverages and tobacco	14.1	6.9	Clerical	28.8	2.7
Metal products	9.2	4.4	Sales	25.9	4.3
Other manufacturing	42.1	4.6	Farmers, fishermen, timber-getters, etc.	21.5	4.6
Construction	28.7	5.7	Miners, quarrymen, etc.	*	*
Wholesale trade	14.8	3.8	Transport and communication	13.4	3.9
Retail trade	43.7	4.6	Tradesmen, production-process workers and labourers, n.e.c.	108.9	5.4
Transport and storage	11.3	3.3	Service, sport and recreation	30.1	4.7
Finance, property and business services	11.2	2.1			
Community services	18.9	1.9			
Recreation, personal and other services	22.6	5.5			
Other industries	15.4	2.4			
Stood down(c)	10.1	..			
Other(d)	154.5	..			
Total	413.6	6.2			

(a) Classified according to the Australian Standard Industrial Classification, 1978. (b) The number of unemployed expressed as a percentage of the labour force (i.e. employed and unemployed) in the same group. (c) Persons who were waiting to be called back to a full-time or part-time job from which they had been stood down without pay for less than four weeks up to the end of the survey week (including the whole of the survey week) for reasons other than bad weather or plant breakdown. (d) Had never worked for two weeks or more in a full-time job, or had not done so in the last two years. Industry and occupation were not obtained for these persons. * Less than 4,500 or based on a figure less than 4,500. See page 145.

**UNEMPLOYED PERSONS, BY AGE AND WHETHER LOOKING FOR
FULL-TIME OR PART-TIME WORK, MAY 1980**

Age (years)	Number unemployed (^{'000})				Unemployment rate (a) (per cent)			
	Married		All		Married		All	
	Males	women	females	Persons	Males	women	females	Persons
LOOKING FOR FULL-TIME WORK								
Total	201.0	39.5	141.6	342.6	5.0	4.7	8.7	6.1
15-19	54.3	*	63.3	117.6	14.9	*	21.8	18.0
Attending school	*	*	*	6.8	n.a.	n.a.	n.a.	n.a.
20-24	45.1	9.4	35.1	80.3	8.5	7.5	9.6	8.9
25 and over	101.5	27.9	43.2	144.7	3.3	4.0	4.4	3.6
LOOKING FOR PART-TIME WORK								
Total	18.9	34.1	52.1	71.0	8.7	5.4	6.4	6.9
15-19	8.2	*	12.7	20.9	11.8	*	13.8	12.9
Attending school	6.2	*	9.6	15.7	13.9	*	18.2	16.2
20-24	4.8	*	6.9	11.6	14.9	*	9.6	11.3
25 and over	6.0	28.8	32.5	38.5	5.1	4.9	5.0	5.0
TOTAL								
Total	219.9	73.6	193.7	413.6	5.2	5.0	7.9	6.2
15-19	62.5	*	76.0	138.5	14.4	*	19.9	17.0
Attending school	9.6	*	12.9	22.5	18.3	*	22.0	20.2
20-24	49.9	13.7	42.0	91.9	8.8	9.6	9.2	
25 and over	107.5	56.7	75.7	183.2	3.4	4.4	4.6	3.8

(a) See footnote (b) to table above.

UNEMPLOYED PERSONS, BY DURATION OF UNEMPLOYMENT (a), BY AGE, ETC., MAY 1980

Duration of employment (weeks)	Age (years)				Total (b)	Married	Looking for—		
	15-19	20-24	25-34	35-54			Not married (c)	Full- time work	Part- time work
MALES									
					—'000—				
Under 2	5.8	5.8	8.2	{	* 18.5	5.7	12.8	15.0	6.6
2 and under 4	7.1	*			5.8 22.8	9.1	13.7	19.7	
4 and under 8	8.5	8.6	9.4	8.3	37.0	14.8	22.2	32.9	7.2
8 and under 13	8.7	6.6	5.7	*	27.2	9.2	17.9	24.0	
13 and under 26	17.4	11.1	9.4	7.0	45.9	13.1	32.8	43.4	5.1
26 and under 39	6.5	4.8	{	7.0	{ 20.4	5.7	14.7	19.7	
39 and under 52	4.7	*			{ 9.6	{ 7.6	*	5.3		7.4
52 and under 65			{ 11.7	4.8		6.9	11.3		
65 and over	*	5.2	7.0	9.2	28.9	11.8	17.1	27.6	
Total	62.5	49.9	49.3	43.8	219.9	76.5	143.4	201.0	18.9
Average (mean) duration (weeks)	21.0	26.8	31.3	41.7	30.3	32.7	29.1	31.5	18.2
FEMALES									
					—'000—				
Under 2	4.5	7.2	{	*	* 16.7	8.9	7.8	8.8	8.0
2 and under 4	6.4				5.3	5.7	22.1	11.6	10.5	11.8	10.3
4 and under 8	11.6	7.6	*	6.0	{ 26.6	9.3	17.4	19.4	7.2
8 and under 13	7.9	*	6.7		{ 21.3	8.7	12.6	16.1	5.2
13 and under 26	24.0	9.3	7.6	6.1	47.6	14.5	33.2	37.1	10.5
26 and under 39	7.6	{	8.9	5.9	{ 16.9	6.0	10.9	13.8	4.7
39 and under 52	5.4				{	{ 6.2	6.6	{ *		4.6
52 and under 65		{ 11.2	{ 7.1	8.6		6.3			
65 and over	8.7	5.6	5.4	5.2	25.0		8.1	17.0	21.4
Total	76.0	42.0	38.9	33.2	193.7	73.6	120.1	141.6	52.1
Average (mean) duration (weeks)	25.5	32.4	28.9	32.2	28.8	26.6	30.2	31.9	20.5
PERSONS									
					—'000—				
Under 2	10.3	9.3	7.5	6.7	35.2	14.7	20.6	23.8	11.5
2 and under 4	13.5	7.8	9.7	11.5	44.9	20.7	24.2	31.5	13.4
4 and under 8	20.1	16.2	13.7	11.2	63.6	24.0	39.5	52.3	11.3
8 and under 13	16.5	9.9	12.4	7.3	48.5	17.9	30.6	40.1	8.4
13 and under 26	41.4	20.4	17.0	13.1	93.6	27.6	66.0	80.5	13.0
26 and under 39	14.0	8.3	7.0	5.7	37.3	11.7	25.6	33.5	5.5
39 and under 52	*	*	*	*	13.8	4.8	9.0	12.0	
52 and under 65	6.1	5.5	5.1	5.2	22.9	8.9	14.0	19.8	8.0
65 and over	12.5	10.8	12.5	14.4	53.9	19.9	34.1	49.0	
Total	138.5	91.9	88.1	77.0	413.6	150.1	263.5	342.6	71.0
Average (mean) duration (weeks)	23.5	29.4	30.3	37.6	29.6	29.7	29.6	31.6	19.9

(a) Period from the time the person began looking for work, or was laid off, to the end of the survey week. Periods of unemployment are recorded in complete weeks and this results in a slight understatement of duration. (b) Includes persons aged 55 years and over, details for whom are not shown separately. (c) Never married, widowed and divorced. * Less than 4,500. See page 145.

Government employees

Government employees comprise not only administrative employees but also all other employees of government bodies (Commonwealth, State, local and semi-government) on services such as railways, road transport, banks, postal and telecommunications, air transport, education (including universities, colleges of advanced education, etc.), radio, television, police, public works, factories, marketing authorities, public hospitals (other than those run by charitable or religious organisations) and departmental hospitals and institutions.

CIVILIAN EMPLOYEES OF GOVERNMENT BODIES (a): JUNE 1980

(Excluding defence forces and employees in agriculture and private domestic service)
(^{'000})

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.(b)	Aust.
Commonwealth Government									
Males	86.9	68.9	30.1	29.9	16.1	7.3	2.7	33.8	275.8
Females	38.0	28.3	13.0	8.1	7.1	2.3	1.1	22.7	120.7
Persons	124.9	97.2	43.1	38.0	23.3	9.7	3.9	56.5	396.5
State Government									
Males	195.2	154.4	95.2	54.6	62.8	20.4	..	..	582.5
Females	139.5	108.1	53.8	46.8	44.5	16.3	..	..	409.0
Persons	334.7	262.4	149.0	101.4	107.3	36.7	..	..	991.5
Northern Territory Government									
Males	..	..	..	..	..	..	7.5	..	7.5
Females	..	..	..	..	..	..	6.5	..	6.5
Persons	..	..	..	..	..	..	14.1	..	14.1
Local Government									
Males	48.6	20.7	18.6	5.5	7.3	2.6	0.3	..	103.7
Females	8.0	11.9	2.4	1.5	1.8	0.5	0.1	..	26.1
Persons	56.6	32.6	21.1	7.0	9.1	3.1	0.4	..	129.8
Total									
Males	330.7	244.0	143.9	90.0	86.2	30.3	10.6	33.8	969.6
Females	185.5	148.2	69.3	56.4	53.4	19.1	7.7	22.7	562.3
Persons	516.2	392.2	213.2	146.4	139.6	49.4	18.3	56.5	1531.9

(a) Includes semi-government bodies.

(b) Includes persons employed in the Australian Capital Territory who reside in adjoining areas.

Overtime

The ABS conducts a monthly sample survey of employers, by telephone, to obtain information about overtime hours worked. The surveys, which commenced in July 1979, are generally conducted in respect of the last week of the pay period ending on or before the third Friday of each month. A summary of the results is shown in the tables below. More detailed information and explanatory notes, including definitions of standard error, are contained in *Overtime, Australia, December 1980* (6330.0)

Average weekly overtime hours									
Month	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
PER EMPLOYEE IN THE SURVEY									
1980—									
January	1.3	1.0	1.1	0.8	1.3	1.2	2.0	0.8	1.2
February	1.5	1.5	1.1	1.0	1.5	1.3	2.1	0.9	1.4
March	1.5	1.6	(a)1.2	(a)1.1	1.5	1.3	2.3	0.9	1.4
April	1.5	1.4	1.3	0.9	1.4	1.2	2.2	0.9	1.4
May	1.6	1.3	1.1	1.0	1.5	1.2	2.5	0.9	1.4
June	1.5	1.3	1.2	0.9	1.4	1.1	2.3	0.9	1.3
July	1.6	1.4	1.3	1.0	1.3	1.1	2.5	1.0	1.4
August	1.6	1.4	1.2	0.9	1.3	1.1	2.4	1.0	1.4
September	1.6	1.4	(a)1.3	0.9	1.3	1.1	2.5	1.0	1.4
October	1.7	1.4	1.4	0.9	(a)1.4	1.1	2.1	(a)0.9	1.4
November	1.8	1.5	1.4	1.0	1.6	(a)1.2	2.2	0.8	1.5
December	1.9	1.5	1.3	1.2	1.6	1.3	2.2	(a)0.9	1.6
Standard error of Dec. 1980 estimates	.07	.08	.05	.06	.07	.07	.24	.05	.04

For footnotes see end of table.

OVERTIME—continued

Month	Average weekly overtime hours								
	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
PER EMPLOYEE WORKING OVERTIME									
1980—									
January	7.0	7.0	6.4	5.9	7.1	7.6	8.1	7.8	6.9
February	7.0	7.6	6.0	5.7	7.3	6.7	8.9	8.3	7.0
March	6.9	7.8	6.2	6.1	7.3	6.9	8.4	8.1	7.1
April	7.2	7.2	6.1	5.3	7.0	6.4	8.0	8.2	6.9
May	7.3	6.9	6.0	6.0	7.8	6.4	9.5	8.1	7.0
June	6.9	6.5	6.5	5.6	7.2	6.5	9.1	7.9	6.7
July	7.3	6.8	6.4	5.9	7.0	6.5	7.3	7.3	6.9
August	7.2	6.9	6.2	5.6	6.9	6.5	7.6	7.7	6.8
September	7.1	6.9	6.2	5.7	6.9	6.6	8.4	8.5	6.8
October	7.3	6.9	6.5	5.7	7.1	6.6	7.7	8.0	6.9
November	7.5	6.9	6.6	6.1	7.6	6.4	8.1	7.0	7.1
December	7.6	7.0	6.4	6.1	7.7	6.7	8.0	6.9	7.2
Standard error of Dec. 1980 estimates . . . . .	.13	.19	.12	.17	.18	.18	.43	.22	.08

(a) Movement from the previous month is not statistically significant.

Job vacancies

Sample surveys of job vacancies were conducted by the Australian Bureau of Statistics in March each year (by mail) from 1974 to 1978 and quarterly (by telephone) from May 1977 to May 1978. The annual and quarterly surveys were suspended in March and May 1978 respectively as part of the measures necessary to bring the activities of the ABS within the resources available to it at that time. The quarterly surveys were re-introduced in May 1979. A summary of the results of these surveys is shown in the table below; the results of the resumed quarterly surveys are not directly comparable with those of surveys conducted up to May 1978, because of a change of the treatment of vacancies in the government sector.

Standard errors of the estimated numbers of job vacancies are included in the table; for a definition of standard error see page 145.

	Number of vacancies ('000)						Job vacancy rate (a) (per cent)
	For males	For females	For males or females	Manufacturing (b)	Other industries (c)	Total	
1979—							
May (d)	14.8	6.2	13.3	9.8	24.5	34.3	0.8
August	13.7	5.8	13.4	10.1	22.9	33.0	0.8
November	13.0	5.0	16.3	8.5	25.9	34.3	0.8
1980—							
February	15.0	5.0	16.9	11.3	25.7	36.9	0.9
May	12.5	3.6	13.7	9.1	20.7	29.8	0.7
August	12.6	4.3	13.2	9.7	20.4	30.1	0.7
November	13.3	5.4	15.5	9.2	25.1	34.3	0.8
Standard error of estimates and of quarterly movements	1.3	0.6	1.0	1.0	1.4	1.8	0.05

(a) The job vacancy rate is calculated by expressing the number of job vacancies as a percentage of employees plus vacancies. (b) Australian Standard Industrial Classification (ASIC) Division C. (c) ASIC Divisions A to L excluding Division C (Manufacturing), Subdivisions 01 and 02 (agriculture, etc.), 94 (private households employing staff) and defence forces. (d) See text regarding differences compared with earlier surveys.

INCOME, EARNINGS AND HOURS

Industrial Conciliation and Arbitration

General

Legal minimum rates of pay for most Australian wage and salary earners (90 per cent in 1976) are prescribed in awards and determinations of Federal and State industrial arbitration tribunals or in collective agreements registered with them. (In 1976 less than one per cent of employees were affected by unregistered collective agreements.)

Determination of rates of pay

The awards, etc. of the various Federal and State tribunals prescribe minimum rates of pay, standard hours of work and other conditions of employment for particular occupations. Most awards also prescribe a minimum wage for adult males and for adult females, i.e. the minimum amount which must be paid to an adult employee, regardless of occupation, for working the standard weekly hours of work. In all awards, etc. except those of Western Australia tribunals, the minimum wage is the same amount for adult females and adult males. The concept of equal pay for the sexes is applicable in most Federal and State awards. In recent years the wage fixing principles of the Australian Conciliation and Arbitration Commission have generally been followed by State tribunals.

In April 1975, the Australian Conciliation and Arbitration Commission decided to introduce wage indexation in the form of quarterly adjustments to award wages based on increases in the Consumer Price Index (see Year Book No. 61, page 298).

Following the completion of the Wage Fixation Principles Inquiry, a Full Bench of the Commission decided on 14 September 1978 to hold future wage indexation hearings at six-monthly intervals, in each April and October, beginning in October 1978. Indexation increases of 4.0 per cent, 3.2 per cent, 4.5 per cent and 4.2 per cent were granted in December 1978, June 1979, January 1980 and July 1980 respectively. These increases were applied to all rates of pay prescribed in awards of the Commission, including rates of minimum wage for adults. At 31 July 1980, the six capital cities' minimum wage was \$134.90 a week.

State tribunals generally granted similar wage increases to those of the Australian Commission, including wage indexation increases. For details of increases in Federal and State awards, etc., and for rates of minimum wage for adult males and adult females, see *Wage Rates, Australia* (6312.0).

For details of wage determination in earlier periods see previous issues of the Year Book, the *Labour Report* (last issue 1973) and the 1975 to 1978 issues of *Labour Statistics* (6101.0).

Rates of wage

This section contains indexes (with base: year 1954 = 100.0) of minimum weekly and hourly rates of wage for adult males and adult females for Australia and each State.

Because the indexes are designed to measure movements in prescribed minimum rates of 'wages' as distinct from 'salaries', those awards, etc. which relate solely or mainly to salary earners are excluded. In the new indexes, currently under development on a more up-to-date weighting pattern, consideration is being given to inclusion of salary earners covered by awards and determinations.

Further particulars of wage rates and index numbers will be found in publications *Minimum Wage Rates*, March 1939 to June 1965 (6313.0), *Wage Rates Indexes*, June 1965 to June 1968 (6314.0) and *Wage Rates Indexes*, June 1968 to June 1972 (6314.0). Current figures are published in the monthly publications *Wage Rates, Australia* (6312.0) and *Wage Rates Indexes, Australia (Preliminary)* (6311.0) and may include revisions of figures shown in the following tables.

Weighted average minimum weekly wage rates for adult males and adult females covered by Federal awards, etc. and those covered by State awards, etc. (as defined below) are shown separately in the following table. For the purposes of the index, Federal awards, etc. include awards of or collective agreements registered with the Australian Conciliation and Arbitration Commission, and determinations of the Australian Public Service Arbitrator. State awards, etc. include awards or determinations of or collective agreements registered with State industrial tribunals, together with certain unregistered collective agreements when these are dominant in the particular industries to which they refer.

WEEKLY WAGE RATES: ALL GROUPS(a)

WEIGHTED AVERAGE MINIMUM WEEKLY RATES(b) PAYABLE FOR A FULL WEEK'S WORK
(EXCLUDING OVERTIME) AND INDEX NUMBERS OF WAGE RATES

End of December—	Rates of wage (\$)			Index Nos. (Base 1954 = 100.0)
	Federal awards, etc.	State awards, etc.	All awards, etc.	All awards, etc.
ADULT MALES				
1974	105.64	105.51	105.57	373.8
1975	119.24	116.39	117.95	417.6
1976	135.98	134.45	135.29	479.0
1977	149.42	148.67	149.08	527.9
1978	162.68	159.59	161.28	571.1
1979p	170.46	166.17	168.52	596.7
ADULT FEMALES				
1974	87.62	95.09	91.62	460.2
1975	102.76	113.69	108.61	545.6
1976	119.14	131.49	125.75	631.7
1977	131.94	144.84	138.85	697.4
1978	141.57	155.27	148.90	747.9
1979p	146.93	160.42	154.15	774.3

(a) Excludes rural industry.

(b) As prescribed in awards, determinations and collective agreements.

The following table shows for Australia the weighted average minimum weekly rates of wage and index numbers in each industry group and for all groups (excluding rural industry) at the dates specified.

WEEKLY WAGE RATES: ADULT MALES, INDUSTRIES

WEIGHTED AVERAGE MINIMUM WEEKLY RATES(a) PAYABLE FOR A FULL WEEK'S WORK (EXCLUDING OVERTIME)
AND INDEX NUMBERS OF WAGE RATES

Industry	End of December—					
	1974	1975	1976	1977	1978	1979
RATES OF WAGE(b) (\$)						
Mining and quarrying(c)	122.79	147.00	168.02	185.37	189.46	200.66
Manufacturing—						
Engineering, metals, vehicles, etc.	101.40	110.38	126.83	140.00	153.62	163.28
Textiles, clothing and footwear	92.22	108.41	124.27	137.09	147.24	152.03
Food, drink and tobacco	101.83	114.90	132.39	145.89	157.21	163.69
Sawmilling, furniture, etc.	101.51	111.77	128.15	141.49	151.27	156.37
Paper, printing, etc.	107.02	119.16	136.74	150.26	161.24	168.82
Other manufacturing	101.77	112.99	129.92	143.36	154.74	161.80
All manufacturing	101.17	111.96	128.64	141.93	154.11	162.01
Building and construction	110.92	127.14	146.11	160.38	174.22	181.64
Railway services	101.94	108.96	124.40	138.31	148.38	155.40
Road and air transport	107.48	116.52	133.29	146.68	159.32	166.46
Shipping and stevedoring(d)	118.19	144.80	164.17	179.58	192.54	199.20
Communication	130.75	141.67	160.85	175.98	186.95	198.35
Wholesale and retail trade	105.75	117.58	134.99	148.84	160.81	166.83
Public authority n.e.i. and community and business services	104.19	120.15	138.34	151.95	162.54	168.01
Amusement, hotels, personal service, etc.	97.66	108.96	124.98	137.89	148.20	153.23
All industries(e)	105.57	117.95	135.29	149.08	160.96	168.52

For footnotes see end of table.

WEEKLY WAGE RATES: ADULT MALES, INDUSTRIES—*continued*

Industry	End of December—					
	1974	1975	1976	1977	1978	1979
INDEX NUMBERS						
(Base: Weighted Average Minimum Weekly Wage Rate for Australia, Year 1954=100.0)						
Mining and quarrying(c)	434.8	520.5	594.9	656.3	670.8	710.5
Manufacturing—						
Engineering, metals, vehicles, etc.	359.0	390.8	449.1	495.7	543.9	578.1
Textiles, clothing and footwear	326.5	383.9	440.0	485.4	521.4	538.3
Food, drink and tobacco	360.6	406.9	468.4	516.6	556.7	579.6
Sawmilling, furniture, etc.	359.4	395.8	453.8	501.0	535.6	553.7
Paper, printing, etc.	378.9	421.9	484.2	532.1	570.9	597.8
Other manufacturing	360.4	400.1	460.0	507.6	547.9	572.9
All manufacturing	358.2	396.4	455.5	502.6	545.7	573.7
Building and construction	392.7	450.2	517.4	567.9	616.9	643.1
Railway services	360.9	385.8	440.5	489.7	525.4	550.3
Road and air transport	380.6	412.6	471.9	519.4	564.1	589.4
Shipping and stevedoring(d)	418.5	512.7	581.3	635.9	681.7	705.3
Communication	463.0	501.6	569.6	623.1	662.0	702.3
Wholesale and retail trade	374.5	416.3	478.0	527.0	569.4	590.7
Public authority n.e.i. and community and business services	368.9	425.4	489.8	538.0	575.5	594.9
Amusement, hotels, personal service, etc.	345.8	385.8	442.5	488.3	524.8	542.6
All industries(e)	373.8	417.6	479.0	527.9	569.9	596.7

(a) As prescribed in awards, determinations and collective agreements. (b) The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends. (c) For mining, rates of wage used are those prescribed for the principal mining centres and include lead bonuses, etc. (d) Includes rates of wage (and value of keep) for occupations in the coastal shipping service, other than masters, officers and engineers. (e) Excludes rural industry.

The following table shows for Australia weighted average minimum weekly rates of wage and index numbers in each of the industry groups in which the number of females employed is important, and the weighted average for all groups combined, at the dates specified.

WEEKLY WAGE RATES: ADULT FEMALES, INDUSTRIES

WEIGHTED AVERAGE MINIMUM WEEKLY RATES(a) PAYABLE FOR A FULL WEEK'S WORK (EXCLUDING OVERTIME) AND INDEX NUMBERS OF WAGE RATES

Industry	End of December—					
	1974	1975	1976	1977	1978	1979p
RATES OF WAGE(b) (\$)						
Manufacturing—						
Engineering, metals, vehicles, etc.	93.31	106.85	123.32	136.19	147.95	156.19
Textiles, clothing and footwear	81.09	101.11	118.55	131.07	140.18	144.66
Food, drink and tobacco	91.36	107.29	124.30	137.30	147.64	153.41
Other manufacturing	90.60	107.04	123.32	136.20	146.07	151.35
All manufacturing	86.67	104.22	121.19	133.91	143.82	149.32
Transport and communication	100.55	112.49	129.26	142.31	150.58	155.76
Wholesale and retail trade	98.07	115.21	133.28	147.14	157.81	162.78
Public authority n.e.i. and community and business services	94.69	113.77	131.49	144.77	155.33	160.49
Amusement, hotels, personal service, etc.	90.28	105.06	120.36	133.09	142.76	147.68
All industries(c)	91.62	108.61	125.75	138.85	148.90	154.15

For footnotes see end of table.

WEEKLY WAGE RATES: ADULT FEMALES, INDUSTRIES—*continued*

Industry	End of December—					
	1974	1975	1976	1977	1978	1979p
INDEX NUMBERS						
(Base: Weighted Average Minimum Weekly Wage Rate for Australia, Year 1954=100.0)						
Manufacturing—						
Engineering, metals, vehicles, etc.	468.7	536.7	619.5	683.9	743.2	784.6
Textiles, clothing and footwear	407.3	507.9	595.5	658.4	704.1	726.7
Food, drink and tobacco	458.9	538.9	624.4	689.7	741.6	770.6
Other manufacturing	455.1	537.7	619.4	684.2	733.7	760.3
<i>All manufacturing</i>	<i>435.4</i>	<i>523.5</i>	<i>608.7</i>	<i>672.6</i>	<i>722.4</i>	<i>750.1</i>
Transport and communication	505.1	565.1	649.3	714.9	756.4	782.4
Wholesale and retail trade	492.6	578.7	669.5	739.2	792.7	817.7
Public authority n.e.i. and community and business services	475.6	571.5	660.5	726.7	780.3	806.2
Amusement, hotels, personal service, etc.	453.5	527.7	604.6	668.5	717.1	741.8
<i>All industries(c)</i>	<i>460.2</i>	<i>545.6</i>	<i>631.7</i>	<i>697.4</i>	<i>748.0</i>	<i>774.3</i>

(a) As prescribed in awards, determinations and collective agreements. averages, but as an index expressed in money terms, indicative of trends.

(b) The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends.

(c) Excludes rural industry; mining and quarrying; and building and construction.

The average rates of wage in the preceding tables are based on the minimum rates prescribed for selected occupations in awards, etc. for a full week's work, excluding overtime. However, the number of hours constituting a full week's work differs in some instances between the various occupations in each State, and between the same occupations in the several States. For some purposes a better comparison may be obtained by reducing the results in the preceding paragraphs to a common basis, namely the rate of wage per hour. The particulars of weighted average minimum hourly rates of wage for adult males given in the following tables relate to all industries except the rural industry and shipping and stevedoring; for adult females the rates exclude rural industry, mining and quarrying, and building and construction.

HOURLY WAGE RATES: ALL GROUPS(a)

WEIGHTED AVERAGE MINIMUM HOURLY RATES PAYABLE AND INDEX NUMBERS OF HOURLY RATES

End of December—	Adult males		Adult females	
	Rates of wage (cents)(b)	Index numbers(c)	Rates of wage (cents)(b)	Index numbers(c)
1974	263.97	373.1	230.95	460.3
1975	294.06	415.6	273.78	545.7
1976	337.70	477.3	316.99	631.8
1977	372.44	526.4	350.00	697.6
1978	402.20	568.5	375.35	748.2
1979p	421.34	595.5	388.58	774.5

(a) See text above. (b) The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends. (c) Base: weighted average minimum hourly wage rate, Australia, 1954=100.0.

Standard hours of work

In the fixation of weekly wage rates, most industrial tribunals prescribe the number of hours constituting a full week's work (excluding overtime) for the wage rates specified. The hours of work so prescribed form the basis of the compilation of the weighted averages shown below. The main features of the reduction of hours to forty-four, and later to forty, per week were summarised in previous issues of the Year Book. Since January 1948, practically all employees in Australia have had a standard working week of forty hours or less. However, the number of hours constituting a full week's work (excluding overtime) differs between occupations and/or States. The weighted average standard hours of work (excluding overtime) prescribed in awards, determinations and collective agreements for a full

working week in respect of adult male workers in all industry groups except rural industry and shipping and stevedoring, at 30 June 1980, were: New South Wales, 39.68; Victoria, 39.90; Queensland, 39.82; South Australia, 39.90; Western Australia, 39.78; Tasmania, 39.87; Australia, 39.80. Corresponding figures for adult female workers at 30 June 1980, were: New South Wales, 39.53; Victoria, 39.81; Queensland, 39.70; South Australia, 39.77; Western Australia, 39.78; Tasmania, 39.63; Australia, 39.67.

Evening and night work

In November 1976, a survey based on the quarterly population survey (see the section *The Population Survey* earlier in this chapter) was conducted throughout Australia in order to obtain information about the type of work being done in the evening and at night. Results of this survey are published in *Evening and Night Work, November 1976* (6329.0).

Working conditions and employment benefits

During the period February to May 1979 a special survey based on a sample of private and non-private dwellings was conducted throughout Australia in order to obtain information about selected aspects of working conditions and a range of benefits provided by employers to employees. Results of these surveys were published in *Employment Benefits, Australia, February to May 1979* (6334.0) and *Working Conditions, Australia, February to May 1979* (6335.0).

Average weekly earnings

The figures in this section are derived from particulars of employment and wages and salaries recorded on payroll tax returns, from other direct collections and from estimates of the unrecorded balance. The figures relate to civilian male wage and salary earners. Earnings comprise award and over-award wages and salaries, the earnings of employees not covered by awards, overtime earnings, bonuses and allowances, commissions, directors fees and payments made retrospectively or in advance during the quarter.

Particulars of wages and salaries paid are not available for males and females separately from the sources used for this series; average weekly earnings have therefore been calculated in terms of *male units*, i.e. total male employees plus a proportion of female employees, the proportion being derived from the estimated ratios of female to male average earnings. Different ratios of female to male average earnings, based on information from surveys of earnings and hours and from other sources, are used for individual States and Territories. Ratios used for the June 1980 quarter are as follows: New South Wales 67 per cent, Victoria 67, Queensland 67, South Australia 66, Western Australia 63, Tasmania 65, Northern Territory 63 and the Australian Capital Territory 63. As the number of male units used in calculating Australian average weekly earnings is the sum of the estimates for the States and Territories, a separate ratio for Australia is not used, but the weighted average of the State ratios is approximately 66.5 per cent. Changes in these ratios may be necessary from one quarter to the next to reflect, for example, appreciable and sustained changes in the levels of male overtime earnings or changes in the occupational structure. However, small differences in these ratios have relatively little effect on the earnings figures: if the ratio is understated by one per cent, then the average weekly earnings of \$250 would be overstated by about \$1.00.

Annual averages for each State, Territory and Australia are shown in the table below.

AVERAGE WEEKLY EARNINGS PER EMPLOYED MALE UNIT(a)

(\$)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.(b)	A.C.T.(b)	Aust.
1974-75 . .	152.10	147.80	142.50	138.60	145.60	140.20	168.50	184.30	148.30
1975-76 . .	172.70	170.50	163.50	158.50	169.10	157.80	190.00	209.00	169.60
1976-77 . .	193.60	191.10	184.50	179.50	190.80	181.20	216.70	237.10	190.70
1977-78 . .	213.40	209.30	202.20	197.40	209.20	199.00	240.70	259.10	209.50
1978-79 . .	230.20	226.60	217.80	210.30	223.30	211.60	259.30	279.30	225.70
1979-80 . .	253.10	248.30	234.00	230.50	244.30	237.90	289.20	305.60	247.10

(a) See explanation above. (b) Estimates for the Northern Territory and the Australian Capital Territory have been calculated on a basis which excludes the effect of varying numbers of Australian Government pay-days in each quarter.

For annual averages for the years 1966-67 to 1973-74, other than for the Northern Territory and the Australian Capital Territory (which were not compiled separately before 1974-75), see the 1979 issue of the Year Book. For current statistics in this series, reference should be made to the quarterly publication *Average Weekly Earnings, Australia* (6302.0).

SURVEYS OF INCOME, EARNINGS AND HOURS

Since 1960 a number of statistical surveys have been undertaken by the ABS in order to obtain information on income, earnings and hours of work in Australia. Particulars of most of the surveys from 1960 to 1979 were shown in earlier issues of the Year Book. Information on the most recent surveys is given below.

Earnings and hours of employees (distribution and composition), May 1980

Preliminary results of the May 1980 survey contained in the tables below relate to the pay-period which included 12 May 1980. Similar surveys have been conducted in May each year from 1974. The results of these surveys are published in *Earnings and Hours of Employees, Distribution and Composition, Australia* (6306.0).

Scope of survey

All wage and salary earners were represented in the survey except (i) members of the permanent defence forces, (ii) employees in agriculture, (iii) employees in private households employing staff, (iv) waterside workers employed on a casual basis, (v) employees on worker's compensation and (vi) persons employed by private employers (other than hospitals) not subject to payroll tax. At the time of sample selection, payroll tax was payable by employers paying on wages and salaries more than \$125,000 a year in Queensland, more than \$66,000 a year in New South Wales, Victoria and the Territories, and more than \$60,000 a year in South Australia, Western Australia and Tasmania. In general, Australian Government bodies, religious and benevolent institutions, public hospitals and other similar organisations were specifically exempted under the Australian and State Payroll Tax Acts.

Coverage

The survey covered stratified random samples of government departments and authorities, non-government hospitals not subject to payroll tax and other private employers subject to payroll tax.

Survey design

The majority of employers selected were requested to supply relevant details, on separate questionnaires, for only a sample of their employees. Individual employees were randomly selected by the employers in accordance with instructions supplied by the ABS. Employers with fewer than 10 employees were required to complete a questionnaire for every employee.

Definitions

Employees comprise male and female wage and salary earners within the survey scope who received pay for the specified pay-period.

Full-time employees are employees who received pay for the specified pay-period and whose standard (or rostered) weekly hours of work for that pay-period were at least 30 hours. Included are full-time employees who began or ceased work during the pay-period and full-time employees on paid annual leave, paid sick leave and paid holidays. Some employees (e.g. aircrews, teachers, university lecturers), although paid for a weekly attendance of less than 30 hours, were classified as full-time.

For employees in the private sector, *non-managerial employees* were defined to include minor supervisory employees, leading hands, clerical and office staff as well as ordinary wages employees. They exclude *managerial, executive, professional and higher supervisory staff* generally defined as those employees who (i) were ineligible to receive payment for overtime, or (ii) although subject to payment for overtime, were in charge of a significant number of employees in a separate establishment (or establishments). The basis of allocation of employees to these two categories may have varied between individual private employers and between employers in the private and government sectors, with consequent effects on survey results. For some occupations in government employment, such as school teachers and doctors, there is no general payment for overtime. In these cases, managerial, etc. staff were determined according to the degree of supervision exercised or in relation to the pay structure of associated administrative employees.

Weekly hours paid for refers to the hours for which payment was made. It comprises *ordinary time hours* (see page 161) and *overtime hours*, which are those in excess of ordinary time hours. Weekly hours paid for were not reported for managerial, executive, professional and higher supervisory staff.

Ordinary time hours refers to award, standard or agreed hours of work. It includes stand-by or reporting time which are part of standard hours, and that part of paid annual leave, paid sick leave and long-service leave taken during the specified pay-period.

Weekly earnings refers to gross earnings before taxation and other deductions have been made. It includes *overtime earnings*, which refers to payment for overtime hours as defined above, and *ordinary time earnings*, as defined below. It includes one week's proportion of payments made other than on a weekly basis, e.g. salary paid fortnightly or monthly and paid annual or other leave taken during the specified pay-period. Pay in advance, retrospective pay and annual or periodical bonuses, etc. are excluded.

Ordinary time earnings refers to that part of weekly earnings which is attributable to ordinary time hours, as defined above. It comprises award or agreed base rates of pay for ordinary time hours paid for, including all allowances (other than overtime) specified in the award, etc.; payment by measured result, i.e. payment by piecework, task bonus, commission, etc.; and other earnings, i.e. attendance and good timekeeping bonuses, profit-sharing and any other forms of over-award, etc. pay.

Median earnings is the amount which divides the distribution into two equal groups, one having earnings above the median and the other having earnings below it. Medians were calculated from grouped data, linear interpolation being used within the class interval in which the median fell.

Mean (or average) earnings is the amount obtained by dividing the total earnings of a group (e.g. full-time employees) by the number of employees in that group.

Reliability of the estimates

Since the estimates from this survey are based on a sample they may differ from the figures that would have been produced if the information had been obtained for all employees. One measure of the likely difference is given by the *standard error*, which indicates the extent to which an estimate might have varied by chance because only a sample was included in the survey. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all employers had been included and about nineteen chances in twenty that the difference will be less than two standard errors.

The figures in Table A below provide an indication of the magnitude of the standard error of estimates of numbers of persons (distribution of weekly earnings) shown in the table on page 163. An example of the use of Table A is as follows: if the estimate for Australia obtained from the sample is 30,000, the standard error is 1,800 (6 per cent), i.e. there are about two chances in three that the true figure is within the range 28,200 to 31,800 and about nineteen chances in twenty that this figure is between 26,400 and 33,600.

Table B indicates the relative standard errors of average weekly earnings for full-time non-managerial employees. An example of the use of this table is as follows: the tables on the composition of average weekly earnings indicates that average overtime earnings of full-time male non-managerial employees aged 21 years and over (Australia) were \$24.30. Table B below shows the approximate standard error for this estimate to be 3.7 per cent (i.e. about 90 cents). There are about two chances in three that the true figure is within the range \$23.40 to \$25.20, and about nineteen chances in twenty that the true figure is between \$22.50 and \$26.10.

The percentage standard errors in Table B relate only to estimates for Australia. Estimates for the States and Territories have higher standard errors, those for New South Wales and Victoria being about twice, and those for the other States and Territories about 3 to 5 times, as great as those for Australia.

The smaller the estimate the higher is the relative standard error. Estimates with a standard error greater than 15 per cent have not been published, except those relating to overtime earnings and hours; for these categories all estimates with a standard error less than 20 per cent have been published. Estimates with standard errors 20 per cent but not greater than 30 per cent have also been published if the standard errors are not greater than \$1.00 or 0.5 hours respectively.

Relative standard errors for average weekly *hours paid for* are generally much lower than for the corresponding relative standard errors for average weekly *earnings* shown in Table B.

Relative standard errors for mean and median weekly earnings of 'all employees' are less than 1.5 per cent.

Note. Estimates of average weekly earnings shown in the tables are rounded to the nearest 10 cents, and those of average weekly hours paid for are rounded to the first decimal place. Any discrepancies between sums of components and totals in tables are due to rounding.

TABLE A. APPROXIMATE STANDARD ERRORS OF ESTIMATES OF NUMBERS OF PERSONS

Standard error	Size of estimate (persons)						
	5,000	10,000	20,000	30,000	40,000	60,000	100,000
Number	650	900	1,400	1,800	2,000	2,400	4,000
Per cent	13	9	7	6	5	4	4

TABLE B. APPROXIMATE RELATIVE STANDARD ERRORS OF AVERAGE WEEKLY EARNINGS, FULL-TIME NON-MANAGERIAL EMPLOYEES, AUSTRALIA (Per cent)

Industry	Aged 21 years and over						Aged under 21 years	
	Males			Females			Males	Females
	Overtime	Ordinary time	Total	Overtime	Ordinary time	Total	Total	Total
Manufacturing . . .	3.6	0.8	0.8	6.5	0.7	0.7	2.0	2.2
Non-manufacturing .	5.6	1.2	0.9	8.3	2.1	2.0	1.1	1.0
Total all industries	3.7	0.9	0.7	6.2	1.9	1.8	1.1	0.9

AVERAGE WEEKLY EARNINGS AND HOURS PAID FOR, FULL-TIME NON-MANAGERIAL EMPLOYEES, MAY 1980

State or Territory	Earnings (\$)			Hours paid for				
	Males			Females		Males		
	Overtime	Ordinary time	Total	Total	Overtime	Ordinary time	Total	Total
AGED 21 YEARS AND OVER								
New South Wales . .	28.10	245.30	273.40	210.30	2.9	38.3	41.3	37.9
Victoria	25.00	241.80	266.80	210.20	2.7	38.5	41.2	38.7
Queensland	18.30	234.70	253.00	211.70	1.9	38.6	40.6	38.3
South Australia . .	14.40	231.30	245.70	207.30	1.6	39.1	40.7	38.5
Western Australia .	28.70	238.30	267.00	210.30	3.1	38.8	41.9	38.6
Tasmania	17.50	242.30	259.80	218.60	1.9	38.7	40.6	*
Northern Territory .	35.40	266.30	301.70	236.50	3.7	38.5	42.2	38.0
Australian Capital Territory	10.40	271.40	281.80	231.40	1.2	37.7	38.8	36.7
Australia	24.30	241.50	265.80	211.10	2.6	38.5	41.1	38.2
AGED UNDER 21 YEARS								
New South Wales . .	9.80	143.00	152.80	136.90	1.6	38.6	40.1	38.9
Victoria	8.30	143.40	151.70	142.20	1.3	38.8	40.2	39.0
Queensland	10.00	133.50	143.50	129.50	1.7	38.9	40.6	39.2
South Australia . .	7.40	137.70	145.10	139.30	1.4	39.4	40.8	39.1
Western Australia .	10.50	140.90	151.40	123.60	1.6	39.2	40.9	39.0
Tasmania	11.50	145.60	157.10	128.40	1.6	39.3	40.8	39.0
Northern Territory .	*	156.20	180.60	*	*	38.2	40.5	*
Australian Capital Territory	*	150.30	160.40	169.10	1.6	38.6	40.2	38.2
Australia	9.40	141.30	150.70	136.00	1.5	38.9	40.4	39.0

* Subject to sampling variability too high for most practical uses.

ALL EMPLOYEES(a): WEEKLY EARNINGS, MAY 1980

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Australia(b)
MALES							
— Per cent of total employees—							
Weekly earnings (\$)—							
Under 40	1.3	1.1	2.3	3.6	2.4	7.4	1.2
40 and under 60	0.9	0.7					0.3
60 " " 80	1.2	0.7	1.4	1.9	4.9	7.4	1.1
80 " " 100	1.8	1.2	2.1				1.6
100 " " 120	1.6	1.4	2.5	1.7	3.2	11.2	1.7
120 " " 140	2.2	1.8	1.9	1.8			1.9
140 " " 160	2.3	2.1	3.8	3.4	7.5	9.3	2.6
160 " " 180	4.4	6.0	7.4	7.6			5.8
180 " " 200	7.9	8.8	12.2	12.3	9.1	12.8	9.1
200 " " 220	9.7	10.3	9.7	13.7	9.9	10.1	10.3
220 " " 240	10.5	9.9	11.3	11.2	8.7	9.0	10.3
240 " " 260	9.7	9.2	8.6	8.8	8.9	7.6	9.2
260 " " 280	7.9	7.7	7.5	6.9	7.4	7.0	7.7
280 " " 300	6.9	7.5	5.6	5.9	6.6	5.6	6.8
300 " " 320	5.9	6.3	5.1	5.1	6.0	12.3	5.9
320 " " 340	5.0	5.4	3.5	3.4	5.0		4.8
340 " " 360	4.6	4.2	2.7	2.5	3.9	7.8	4.0
360 " " 380	2.9	3.6	2.4	1.9	3.2		3.0
380 " " 400	2.8	2.7	2.0	2.4	2.8	2.8	2.7
400 " " 450	4.5	3.9	3.4	2.9	4.1		4.1
450 " " 500	2.3	2.5	1.9	2.9	3.8	7.8	2.3
500 and over	3.8	3.0	2.8				3.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
—Total employees—							
Number ('000)	957.3	772.9	332.9	232.5	221.9	78.9	2,657.8
—dollars—							
Median earnings	252.90	253.30	232.00	227.10	249.90	238.70	247.80
Mean earnings	269.50	268.70	247.60	241.00	267.60	251.00	264.10

(a) Full-time and part-time employees including managerial, etc. staff. See page 160 for particulars of employees excluded from the survey.
 (b) Includes A.C.T. and N.T. not separately shown.

ALL EMPLOYEES(a): WEEKLY EARNINGS, MAY 1980—continued

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Australia(b)	
FEMALES								
— Per cent of total employees—								
Weekly earnings (\$)—								
Under 20	1.0	1.2	5.2	5.6	5.0	10.2	1.4	
20 and under 40	3.2	2.8					3.1	
40 " " 60	3.2	2.5	2.3	5.9	4.1	15.8	2.8	
60 " " 80	3.1	2.7	4.4		3.4		3.4	
80 " " 100	5.1	4.1	7.0	6.0	7.6	12.8	5.4	
100 " " 120	5.6	5.2	6.9	6.7	7.0		5.8	
120 " " 140	6.4	5.6	6.8	7.2	6.9	16.7	6.3	
140 " " 160	7.3	10.2	7.7	10.9	9.0		8.6	
160 " " 180	14.4	11.3	14.8	13.9	15.1	11.5	13.3	
180 " " 200	15.8	16.3	14.1	15.8	12.3		15.2	
200 " " 220	10.5	11.7	8.3	9.2	6.4	14.3	10.2	
220 " " 240	6.8	7.5	6.1	4.7	6.3		6.7	
240 " " 260	5.7	5.1	5.1	3.4	5.2	18.5	5.3	
260 " " 280	3.8	4.4	2.8	5.6	4.9		3.7	
280 " " 300	2.9	2.8	2.5				2.8	
300 " " 340	3.0	4.3	5.8	5.1	6.7	18.5	3.6	
340 " " 380	1.4	1.2					1.4	
380 and over	0.9	1.0					1.1	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
—Total employees—								
Number ('000)	544.7	416.7	171.5	134.7	121.9	43.3	1,476.6	
—dollars—								
Median earnings	181.10	185.30	173.00	171.00	169.10	167.40	179.90	
Mean earnings	178.40	183.10	170.50	168.80	169.00	164.40	177.60	

(a) Full-time and part-time employees including managerial, etc. staff. See page 160 for particulars of employees excluded from the survey.

(b) Includes A.C.T. and N.T. not separately shown.

**COMPOSITION OF AVERAGE WEEKLY EARNINGS, FULL-TIME NON-MANAGERIAL EMPLOYEES:
INDUSTRIES, AUSTRALIA, MAY 1980**
(**\$**)

Industry	Aged 21 years and over						Aged under 21 years	
	Males			Females			Males	Females
	Overtime	Ordinary time	Total	Overtime	Ordinary time	Total	Total	Total
Manufacturing—								
Food, beverages and tobacco	34.40	215.80	250.20	10.60	182.20	192.80	168.40	141.70
Textiles; clothing and footwear	*	215.30	251.90	5.30	166.10	171.40	140.80	125.10
Paper, printing, etc.	27.00	249.00	276.00	11.70	191.90	203.60	145.30	125.70
Chemical, petroleum and coal products	28.50	248.20	276.60	*	193.60	195.50	180.50	132.00
Metal products, machinery and equipment—								
Basic metal products	40.00	244.30	284.40	*	212.30	227.30	169.40	*
Fabricated metal products; other machinery, etc.	34.10	221.10	255.20	7.70	181.60	189.40	139.80	137.20
Transport equipment	24.00	222.40	246.40	2.30	191.00	193.40	146.60	155.40
Total metal products, etc.	33.10	227.70	260.80	7.10	186.30	193.40	149.80	141.50
Other	34.00	216.20	250.20	7.40	177.50	184.90	137.70	132.80
Total manufacturing	32.90	225.90	258.80	7.50	180.00	187.40	149.80	133.40
Non-manufacturing—								
Mining	68.60	317.10	385.70	12.80	241.40	254.20	240.40	145.40
Electricity, gas and water	23.70	252.30	276.00	*	208.50	210.20	162.50	167.00
Construction	24.10	232.20	256.30	*	207.10	210.80	169.80	132.60
Wholesale trade	14.20	224.50	238.70	3.70	201.00	204.60	133.10	130.20
Retail trade	12.00	208.30	220.20	4.80	176.20	181.00	130.20	116.90
Transport and storage; communication	29.60	249.80	279.40	10.80	202.50	213.30	168.00	149.10
Finance, business services	9.00	243.00	252.00	2.80	202.90	205.70	143.50	134.70
Public administration and defence; community services	10.20	270.60	280.70	2.70	233.60	236.40	166.20	156.20
Other	21.10	228.80	249.90	5.50	191.00	196.60	147.60	124.70
Total non-manufacturing	20.20	248.80	269.00	*	214.50	218.40	151.30	136.40
Total all industries	24.30	241.50	265.80	4.80	206.40	211.10	150.70	136.00

*Subject to sampling variability too high for most practical uses.

**COMPOSITION OF AVERAGE WEEKLY HOURS PAID FOR, FULL-TIME NON-MANAGERIAL
EMPLOYEES: INDUSTRIES, AUSTRALIA, MAY 1980**

Industry	Aged 21 years and over						Aged under 21 years	
	Males			Females			Males	Females
	Overtime	Ordinary time	Total	Overtime	Ordinary time	Total	Total	Total
Manufacturing—								
Food, beverages and tobacco	4.0	38.9	42.9	1.4	37.9	39.3	40.8	39.7
Textiles; clothing and footwear	*	39.6	44.4	0.9	38.2	39.0	41.6	39.4
Paper, printing, etc.	2.7	39.1	41.8	1.5	37.9	39.4	41.3	40.1
Chemical, petroleum and coal products	2.9	38.5	41.4	*	38.3	38.5	41.4	39.7
Metal products, machinery and equipment—								
Basic metal products	4.3	38.8	43.1	*	38.9	40.7	39.7	*
Fabricated metal products; other machinery, etc.	3.8	39.3	43.1	1.1	38.7	39.8	40.5	39.3
Transport equipment	2.7	39.0	41.6	0.3	38.6	38.9	39.6	*
Total metal products, etc.	5.7	39.1	42.7	1.0	38.7	39.7	40.1	39.8
Other	4.0	39.4	43.4	1.1	38.5	39.5	40.1	40.1
Total manufacturing	3.7	39.1	42.8	1.0	38.3	39.3	40.4	39.8
Non-manufacturing—								
Mining	6.1	37.3	43.4	1.4	37.3	38.7	42.9	39.5
Electricity, gas and water	2.3	38.8	41.0	*	36.8	37.0	40.0	37.7
Construction	2.6	39.2	41.8	*	37.8	38.3	40.7	37.8
Wholesale trade	1.7	39.1	40.7	0.5	37.8	38.3	40.5	39.4
Retail trade	1.6	39.9	41.5	0.7	39.0	39.7	41.2	40.0
Transport and storage; communication	2.9	38.1	40.1	1.3	37.0	38.3	40.2	38.0
Finance, business services	1.0	38.3	39.3	0.3	37.6	38.0	39.3	38.2
Public administration and defence; community services	0.9	37.7	38.6	0.3	37.0	37.3	38.9	38.5
Other	2.7	39.2	41.9	0.7	37.2	38.0	40.0	38.8
Total non-manufacturing	2.1	38.3	40.3	*	37.4	37.9	40.4	38.9
Total all industries	2.6	38.5	41.1	0.6	37.6	38.2	40.4	39.0

* Subject to sampling variability too high for most practical uses.

Earnings and hours of employees, October 1979

Results of this survey, which was conducted in respect of the pay-period which included 15 October 1979, are shown below. More detailed results were published in the bulletin *Earnings and Hours of Employees, Australia, October 1979* (6304.0).

Scope of survey

The scope of this survey is the same as that for the May 1980 survey given earlier in this chapter.

Coverage

The survey covered stratified random samples of government departments and authorities, non-government hospitals not subject to payroll tax and other private employers subject to pay-roll tax.

Although the sample was not designed to provide estimates of the number of employees represented, it has been calculated that the survey was representative of approximately 2,718,000 male and 1,473,000 female wage and salary earners, comprising 1,741,000 males and 948,000 females in private employment.

Definitions

Adult employees comprises employees 21 years of age and over and employees under 21 years of age who are paid at the adult rate for their occupation.

Junior employees are all other employees under 21 years of age.

Weekly earnings refers to gross earnings before taxation and other deductions have been made. It comprises overtime earnings (defined on page 161) and ordinary time earnings (defined on page 161). Where payments are made other than on a weekly basis, e.g. salary paid fortnightly or monthly; paid annual or other leave taken during the specified pay period; periodic payments under incentive, piece-work, profit-sharing, etc. schemes; commissions; annual or periodical bonuses, etc., one week's proportion of such payments are included. Retrospective payments are excluded.

Non-managerial employees were defined to include minor supervisory employees, leading hands and clerical and office staff, as well as ordinary wages employees. They exclude *managerial, executive, professional and higher supervisory staff*, who were generally defined as those employees who (i) were ineligible to receive payment for overtime, or (ii) although subject to payment for overtime, were in charge of a significant number of employees in a separate establishment (or establishments).

Definitions for other items are the same as those for the May 1980 survey shown earlier in this chapter.

Reliability of the estimates

Since the estimates from the survey are based on information which, in some instances, was obtained from samples of employers (*see* Coverage above), they may differ from the figures that would have been produced if the information had been obtained from all employers. One measure of the likely difference is given by the *standard error* (for definition *see* page 161).

Relative standard errors for the published estimates of average weekly ordinary time earnings and average weekly total earnings are generally less than 3 per cent. Relative standard errors for the figures of average weekly overtime earnings and hours are generally less than 10 per cent.

AVERAGE EARNINGS AND HOURS: FULL-TIME NON-MANAGERIAL EMPLOYEES, INDUSTRIES, OCTOBER 1979

<i>Manufacturing</i>										
<i>Metal products, machinery and equipment</i>										
	<i>Food, beverages and tobacco</i>	<i>Textiles, clothing and footwear</i>	<i>Paper, printing, etc.</i>	<i>Chemical, petroleum and coal products</i>	<i>Basic metal products</i>	<i>Fabricated metal products; other machinery, etc.</i>	<i>Transport equipment</i>	<i>Total</i>	<i>Other</i>	<i>Total manufacturing</i>
AVERAGE WEEKLY EARNINGS (\$)										
Adult males . .	235.10	220.10	255.60	268.80	264.00	228.30	225.60	235.40	237.70	238.50
Junior males . .	128.10	114.90	128.40	165.60	139.90	122.20	125.00	126.00	116.40	124.60
Adult females . .	184.90	162.60	180.60	182.40	197.30	173.60	178.20	176.70	165.80	173.00
Junior females . .	123.10	107.80	111.40	141.00	127.60	117.50	124.80	119.70	106.80	113.70
AVERAGE WEEKLY HOURS PAID FOR										
Adult males . .	41.5	42.5	42.2	40.9	42.8	42.5	41.1	42.1	43.0	42.1
Junior males . .	39.3	40.1	41.1	39.6	40.3	40.1	40.1	40.1	40.1	40.1
Adult females . .	39.5	39.7	39.6	39.1	39.5	39.9	39.1	39.7	39.2	39.5
Junior females . .	39.6	38.7	38.9	38.3	39.4	39.4	39.0	39.4	39.2	39.1
AVERAGE HOURLY EARNINGS (\$)										
Adult males . .	5.67	5.17	6.06	6.57	6.17	5.37	5.49	5.59	5.53	5.66
Junior males . .	3.26	2.86	3.12	4.18	3.47	3.05	3.11	3.14	2.90	3.11
Adult females . .	4.68	4.10	4.57	4.67	5.00	4.35	4.56	4.45	4.23	4.38
Junior females . .	3.11	2.78	2.86	3.68	3.24	2.98	3.20	3.04	2.73	2.91
<i>Non-manufacturing</i>										
	<i>Mining</i>	<i>Electricity, gas and water</i>	<i>Construction</i>	<i>Wholesale trade</i>	<i>Retail trade</i>	<i>Transport and storage; communication</i>	<i>Finance, business services</i>	<i>Public administration, etc.</i>	<i>Other</i>	<i>Total non-manufacturing industries</i>
AVERAGE WEEKLY EARNINGS (\$)										
Adult males . .	342.50	259.20	236.80	222.20	198.80	249.40	237.30	255.30	214.40	244.60
Junior males . .	198.70	143.40	142.70	124.90	116.50	136.00	131.50	135.70	121.20	130.90
Adult females . .	225.70	204.20	177.40	182.90	169.60	219.30	189.60	218.90	174.30	202.70
Junior females . .	145.40	137.20	129.10	124.50	112.10	131.00	125.00	137.60	118.50	123.70
AVERAGE WEEKLY HOURS PAID FOR										
Adult males . .	41.7	40.3	41.3	40.8	40.7	41.1	39.0	38.9	40.1	40.3
Junior males . .	41.2	39.6	40.5	40.5	40.8	39.2	38.7	38.5	40.9	39.9
Adult females . .	38.3	36.9	38.3	38.9	39.6	38.8	37.7	38.0	38.6	38.3
Junior females . .	38.7	37.2	38.9	40.0	39.6	38.8	38.1	38.3	40.1	38.8
AVERAGE HOURLY EARNINGS (\$)										
Adult males . .	8.22	6.44	5.74	5.45	4.88	6.07	6.08	6.57	5.35	6.07
Junior males . .	4.82	3.62	3.52	3.08	2.86	3.47	3.40	3.52	2.97	3.28
Adult females . .	5.89	5.53	4.64	4.70	4.28	5.66	5.03	5.76	4.52	5.30
Junior females . .	3.75	3.69	3.32	3.12	2.83	3.38	3.28	3.59	2.96	3.23

**AVERAGE WEEKLY OVERTIME^(a) AND ORDINARY EARNINGS AND HOURS: FULL-TIME
NON-MANAGERIAL EMPLOYEES, STATES, OCTOBER 1979**

	Adult males			Junior males			Adult females			Junior females		
	Over-time	Ordinary time	Total	Over-time	Ordinary time	Total	Over-time	Ordinary time	Total	Over-time	Ordinary time	Total
AVERAGE WEEKLY EARNINGS (\$)												
New South Wales	27.70	223.80	251.50	8.30	121.30	129.70	7.00	187.40	194.40	2.80	124.00	126.90
Victoria	21.50	217.20	238.70	6.60	120.00	126.50	4.40	190.70	195.10	2.00	121.60	123.60
Queensland	20.30	213.90	234.20	7.20	118.90	126.00	3.50	190.60	194.00	2.60	118.90	121.50
South Australia	16.00	212.10	228.10	6.00	125.80	131.90	3.80	191.90	195.70	3.20	118.40	121.60
Western Australia	24.50	217.80	242.40	6.90	121.20	128.10	4.00	189.70	193.70	1.50	117.50	119.00
Tasmania	14.40	222.30	236.70	4.90	124.80	129.80	1.90	198.10	200.00	1.70	117.90	119.50
Northern Territory	41.30	238.50	279.80	*	130.00	147.60	6.80	206.00	212.80	*	122.80	125.20
Australian Capital Territory	12.40	245.70	258.10	8.00	131.20	139.20	4.20	216.40	220.50	1.70	128.80	130.50
Australia	23.10	219.40	242.60	7.20	121.30	128.60	5.10	190.50	195.50	2.40	121.20	123.70
AVERAGE WEEKLY HOURS PAID FOR												
New South Wales	3.1	38.0	41.2	1.7	38.4	40.0	0.9	37.8	38.7	0.5	38.1	38.6
Victoria	2.6	38.4	40.9	1.3	38.5	39.9	0.6	38.1	38.7	0.4	38.3	38.8
Queensland	2.3	37.9	40.3	1.4	38.6	39.9	0.5	37.8	38.3	*	38.5	39.1
South Australia	2.0	38.5	40.5	1.2	38.5	39.7	0.6	37.8	38.4	0.7	38.5	39.2
Western Australia	2.9	38.3	41.1	1.3	39.0	40.3	0.6	38.2	38.8	0.3	38.8	39.1
Tasmania	1.6	38.6	40.2	0.9	38.8	39.7	0.2	37.8	38.0	0.4	38.7	39.1
Northern Territory	4.6	39.3	44.0	*	38.8	42.2	0.9	37.1	37.9	*	38.4	39.0
Australian Capital Territory	1.4	37.5	38.9	*	38.4	40.0	0.5	36.8	37.3	0.4	37.9	38.3
Australia	2.7	38.2	40.9	1.4	38.5	40.0	0.7	37.9	38.6	0.5	38.4	38.9

(a) Average overtime earnings and hours paid for are averages for all employees represented in the survey.

* Subject to sampling variability too high for most practical uses.

Weekly earnings of employees (distribution) August 1979

In August 1979 a survey based on the population survey (see the section *The Population Survey* earlier in this chapter) was conducted throughout Australia in order to obtain information about weekly earnings of all persons aged 15 years and over who were employed as wage or salary earners in their main job.

Some results on weekly earnings of wage and salary earners are presented below. Additional details may be obtained from the publication *Weekly Earnings of Employees (Distribution), Australia, August 1979* (6310.0).

In many cases the answer to the question on earnings was based on the knowledge of one person, generally the housewife. Some understatement in the estimates may be expected because of imperfect recall of minor or irregular sources of earnings.

Definitions

Weekly earnings refers to gross weekly wages and salaries from all jobs (i.e. before taxation and other deductions have been made). For persons paid other than weekly, earnings were converted to a weekly equivalent.

Median weekly earnings is the amount which divides the distribution of individuals into two equal groups, one having earnings above the median and the other having earnings below it. Medians were calculated from grouped data with linear interpolation being used within the class interval in which the median fell.

Mean weekly earnings is the amount obtained by dividing the total earnings of a group by the number of units in that group.

Full-time workers are those who usually work 35 hours a week or more and others who, although usually part-time workers, worked 35 hours or more during the survey week.

Part-time workers are those who usually work less than 35 hours a week and who did so during the survey week. When recording hours of work, fractions of an hour were disregarded.

Reliability of estimates

Since the estimates from this survey are based on information obtained from the occupants of a sample of dwellings, they may differ from the figures that would have been produced if the information had been obtained from occupants of all dwellings. One measure of the likely difference is given by the *standard error* (for definition see page 161).

The following estimates have not been shown as they are subject to sampling variability too high (more than approximately 20 per cent) for most practical uses; less than 4,500 for Australia, New South Wales and Victoria; less than 3,500 for Queensland; less than 2,500 for South Australia and Western Australia; less than 1,500 for Tasmania; and less than 2,000 for the Northern Territory and the Australian Capital Territory.

Means and medians are also subject to sampling variability. Standard errors vary according to the size and distribution of the population for which the mean and median have been obtained. Standard errors of means and medians in the tables below could generally be expected to be below 6 per cent. For populations of 100,000, the standard errors of the means and median would both be about 2 per cent.

FULL-TIME EMPLOYEES: WEEKLY EARNINGS IN ALL JOBS AND AGE, AUGUST 1979

	Age group (years)								65	Total 20	
	15-19	20-24	25-34	35-44	45-54	55-59	60-64	and over	and over	Total	
MALES											
—'000—											
Weekly earnings (\$)—											
Under 100	95.6	11.5	12.1	6.7	6.2				43.8	139.4	
100 and under 110	33.8	10.1	6.8						28.0	61.9	
110 " " 120	27.0	10.4	6.4	6.8	7.3				25.8	52.8	
120 " " 130	24.8	16.9	10.2	6.9	9.9				50.2	75.0	
130 " " 140	23.0	18.0	13.3	10.6	6.5	4.8			56.1	79.1	
140 " " 150	16.4	26.9	18.7	16.3	15.9	5.6			87.5	103.9	
150 " " 160	11.2	40.4	33.0	27.0	27.8	11.9	8.0		150.3	161.5	
160 " " 170	10.8	35.9	44.0	26.3	29.1	16.3	9.2		162.9	173.7	
170 " " 180	8.0	43.0	46.7	30.8	31.8	15.0	7.3		175.9	183.9	
180 " " 190	5.0	35.4	53.5	35.5	34.5	19.5	9.6		189.1	194.1	
190 " " 200	5.1	32.1	53.4	36.2	29.3	14.3	6.2		173.7	178.8	
200 " " 210		31.7	72.4	51.2	44.6	19.6	11.0		231.6	235.1	
210 " " 220	5.5	22.4	57.1	32.9	30.5	9.8	7.2		160.6	162.6	
220 " " 230		18.2	46.9	28.5	24.2	13.2	4.5		135.6	138.0	
230 " " 240		13.9	41.4	25.3	19.0	8.4			112.5	113.7	
240 " " 250	6.0	8.5	41.2	23.8	22.0	8.4			108.4	109.9	
250 " " 260		10.1	42.0	32.5	23.8	6.4			117.7	118.7	
260 " " 280		10.3	51.4	31.0	22.0	8.2			126.1	126.8	
280 " " 300		8.5	43.1	31.7	25.7	8.4			120.8	121.2	
300 " " 320		8.3	40.1	35.2	25.0	7.2			117.7	118.8	
320 " " 340			28.7	21.1	13.7	5.5			73.4	74.0	
340 " " 360			21.0	21.2	14.1				67.8	68.5	
360 " " 380	5.3	11.6	17.9	14.4	10.9				49.3	49.3	
380 " " 400			10.9	14.0	11.6				42.1	42.2	
400 " " 450			17.6	18.9	11.2	5.0			57.2	57.7	
450 " " 500			9.4	13.0	10.3	4.8			39.7	40.2	
500 and over			15.1	22.2	16.5	8.9			70.4	71.0	
Total	277.4	431.8	854.2	620.0	523.3	222.3	103.3	19.2	2,774.2	3,051.7	
—dollars—											
Median earnings	113	181	220	228	216	206	199	181	211	205	
Mean earnings	123	193	239	255	244	238	220	200	235	225	

For footnotes see end of table.

FULL-TIME EMPLOYEES: WEEKLY EARNINGS IN ALL JOBS AND AGE, AUGUST 1979—*continued*

	Age group (years)							65 and over	Total 20 and over	Total			
	15-19	20-24	25-34	35-44	45-54	55-59	60-64						
FEMALES													
—'000—													
Weekly earnings (\$)—								(a)					
Under 100	77.3	10.3	6.1	7.9	5.0	}		7.1	5.1	32.3	109.6		
100 and under 110	29.6	5.4	*	*	{ 6.4 {		4.7			5.5	16.7	46.3	
110 " " 120	26.0	11.6	4.6	5.4	{ 8.5 {						104.7	6.1	26.0	52.1
120 " " 130	22.6	23.4	8.9	8.9	{ 12.2 {			7.2	7.0				52.4	75.1
130 " " 140	14.9	26.3	14.7	13.6	{ 16.0 {		8.0			6.1			71.2	86.1
140 " " 150	9.4	30.4	16.8	19.3	{ 17.3 {						7.2	7.0	89.0	98.5
150 " " 160	5.6	30.4	26.0	19.8	{ 18.7 {			7.2	7.0				99.9	105.5
160 " " 170	10.2	36.0	26.2	18.5	{ 15.0 {		7.2			7.0			104.7	109.1
170 " " 180		33.6	26.0	18.5	{ 12.3 {						7.2	7.0	98.1	101.6
180 " " 190		22.8	27.5	19.1	{ 12.0 {			7.2	7.0				86.8	89.1
190 " " 200	6.2	15.9	19.3	9.6	{ 8.7 {		7.2			7.0			62.3	63.5
200 " " 210		17.7	19.9	14.4	{ 8.7 {						7.2	7.0	65.3	66.0
210 and over		55.5	96.9	44.6	33.5	9.2		5.4						245.1	249.3
Total	201.8	319.2	296.3	203.3	165.7	43.2	22.1			1,049.8			1,251.6
—dollars—													
Median earnings	108	166	186	172	169	175	173			173	165		
Mean earnings	113	174	199	184	184	188	186			185	174		

(a) Aged 60 years and over.

*Subject to sampling variability too high for most practical uses.

ALL EMPLOYEES: WEEKLY EARNINGS IN ALL JOBS AND FULL-TIME OR PART-TIME STATUS, STATES AND TERRITORIES, AUGUST 1979

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
MALE FULL-TIME EMPLOYEES									
—'000—									
Weekly earnings (\$)—									
Under 80		19.5	14.6	13.9	6.2	6.9	2.7	*	64.6
80 and under 100		23.2	14.0	17.5	8.8	7.2	3.0	*	74.8
100 " " 110		20.8	15.9	10.2	5.5	5.9	2.5	2.4	61.9
110 " " 120		18.7	13.9	7.6	4.8	4.4	2.1		52.8
120 " " 130		23.9	19.8	11.7	8.0	6.1	4.2		75.0
130 " " 140		26.9	22.5	12.5	7.9	6.2	2.9	2.9	79.1
140 " " 150		38.0	29.6	14.2	8.9	8.1	3.5		103.9
150 " " 160		54.8	45.7	24.3	17.5	13.7	3.6		161.5
160 " " 170		57.6	50.0	27.4	17.1	14.0	4.9	2.9	173.7
170 " " 180		62.2	51.0	27.1	19.2	15.8	5.4		183.9
180 " " 190		71.3	50.6	28.4	20.1	14.9	5.9		194.1
190 " " 200		64.4	45.8	29.3	17.5	14.3	5.6	2.9	178.8
200 " " 210		99.5	56.6	27.2	20.3	17.2	7.3		235.1
210 " " 220		59.2	47.0	23.4	14.2	11.6	3.7		162.6
220 " " 230		51.7	37.8	19.0	10.0	11.7	4.2	2.3	138.0
230 " " 240		38.2	37.4	16.9	7.2	8.3	3.1		113.7
240 " " 250		42.9	28.0	16.2	9.8	8.1	2.9		109.9
250 " " 260		43.3	31.0	15.3	11.5	11.8	2.8	*	118.7
260 " " 280		43.0	38.0	17.7	9.0	11.7	3.8	2.6	126.8
280 " " 300		42.8	35.6	15.5	9.0	10.9	3.2		121.2
300 " " 320		45.1	33.0	15.3	8.3	10.4	3.6		118.8
320 " " 340		30.0	16.8	10.5	6.3	4.8	1.8	2.6	74.0
340 " " 360		28.2	19.0	7.0	5.1	5.2			68.5
360 " " 380		16.7	12.4	5.1	4.6	4.9			49.3
380 " " 400		14.6	9.3	5.2	4.1	4.1		2.1	42.2
400 " " 450		22.2	15.4	6.9	3.9	4.2			57.7
450 " " 500		18.5	8.7	5.1					40.2
500 " " 550		8.5	4.6	*				1.7	20.0
550 and over		20.6	9.6	7.3	3.2	6.1		3.4	50.9
Total		1,106.1	813.2	440.2	270.7	253.1	88.9	29.7	3,051.7
—dollars—									
Median earnings		207	206	199	197	205	196	247	205
Mean earnings		230	223	216	214	227	208	279	225

For footnotes see end of table.

ALL EMPLOYEES: WEEKLY EARNINGS IN ALL JOBS AND FULL-TIME OR PART-TIME STATUS,
STATES AND TERRITORIES, AUGUST 1979—continued

	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
MALE PART-TIME EMPLOYEES(a)									
— '000 —									
Weekly earnings (\$) -									
Under 20	9.9	7.8	3.9	3.5	*				28.7
20 and under 40	9.7	7.5	4.1	2.6	2.5				28.0
40 " " 60	6.6	4.8							16.0
60 " " 80	4.6			4.0	*				12.6
80 " " 100	6.1								11.7
100 " " 200	15.1	6.1							31.0
200 and over	10.1	6.5		3.3	4.8	*	*	*	23.4
Total	62.0	39.2	17.8	13.5	11.9	2.9	*	*	151.4
— dollars —									
Median earnings	81	58	51	48	59	66	*	*	65
Mean earnings	106	98	95	73	108	80	*	*	100
FEMALE FULL-TIME EMPLOYEES									
— '000 —									
Weekly earnings (\$) —									
Under 80	11.6	9.5	12.5	5.1	5.3	2.3	*	*	47.1
80 and under 100	19.5	15.3	12.5	5.9	6.3	2.2	*	*	62.5
100 " " 110	15.2	11.9	9.6	4.1	3.2	1.6			46.3
110 " " 120	16.7	14.3	9.7	5.1	3.2	2.2			52.1
120 " " 130	27.4	20.1	11.1	7.6	5.4	2.0			75.1
130 " " 140	27.4	30.5	9.7	8.4	7.0	2.0			86.1
140 " " 150	35.0	32.6	12.9	8.1	5.9	2.3			98.5
150 " " 160	40.7	28.6	13.9	8.4	8.4	2.3			105.5
160 " " 170	43.3	26.7	17.4	7.5	9.2	2.6			109.1
170 " " 180	37.5	30.7	11.5	8.2	8.3	1.9			101.6
180 " " 190	33.3	27.7	9.9	8.5	5.6	1.7			89.1
190 " " 200	24.0	20.0	5.4	5.2	4.9	2.0			63.5
200 " " 210	25.0	20.2	8.1	4.8	4.0	1.6			66.0
210 " " 220	16.0	13.4	6.2	4.2	2.7				45.3
220 " " 230	13.4	9.0	5.4	3.4	-2.6				35.9
230 " " 240	10.0	7.1							25.5
240 " " 250	6.8	5.9		6.1	7.6	2.0			20.0
250 " " 260	8.0	6.9							23.3
260 " " 280	13.0	8.5		*	3.4				30.7
280 " " 300	7.0	*							16.1
300 and over	19.3	13.3	7.5	3.8	4.5		*	4.3	52.8
Total	450.1	355.8	174.4	106.7	97.4	33.9	9.3	24.1	1,251.6
— dollars —									
Median earnings	167	166	157	161	165	160	175	185	165
Mean earnings	177	174	166	169	173	168	182	200	174
FEMALE PART-TIME EMPLOYEES(a)									
— '000 —									
Weekly earnings (\$) —									
Under 20	16.6	16.7	10.8	5.7	8.7	1.7			60.5
20 and under 40	27.1	21.3	10.9	8.9	8.3	2.2			79.7
40 " " 60	20.9	20.8	9.8	7.3	7.8	3.0			71.2
60 " " 80	27.3	20.4	10.3	8.2	8.1	2.4			78.5
80 " " 100	29.7	21.8	10.3	9.2	9.3	2.3			85.1
100 " " 110	16.7	13.5	5.2	5.8	3.5	2.1			48.2
110 " " 120	12.6	8.3	3.8	4.7	2.5	*			33.5
120 " " 130	12.4	6.4	5.8	5.2	3.6	1.6			28.1
130 " " 140	7.2	6.4							21.8
140 " " 160	13.4	7.9							33.8
160 " " 180	9.5	5.9	11.1	7.5	7.6	1.7	*	2.8	21.0
180 and over	17.7	11.8							43.0
Total	211.0	161.1	77.9	62.5	59.4	18.1	3.4	10.9	604.3
— dollars —									
Median earnings	89	81	75	83	72	77	101	98	83
Mean earnings	96	88	84	85	82	85	108	108	90

(a) Since part-time employees are defined as those who usually work less than 35 hours and who did so in the survey week, these figures may include school teachers, academic staff in universities, aircrew, etc. * Subject to sampling variability too high for most practical uses.

Income distribution surveys

In November 1974, a survey based on the population survey (see the section *The Population Survey* earlier in this chapter) was conducted throughout Australia in order to obtain information about the distribution of personal and family income within Australia. Details of the income of individuals, families, and income units can be obtained from the publication *Income Distribution, 1973-74 Part 1* (6502.0) individuals, *Part 2* (6503.0) families, and *Part 3* (6504.0) individuals, families, and income units.

A similar survey was conducted in November 1969 in respect of individual and family income received during 1968-69. Results of this survey were published in *Income Distribution, 1968-69, Consolidated and Revised Edition* (6505.0).

A further survey was conducted in respect of the year 1978-79. Some results on the income of individuals are shown below. Additional details are available from the publication *Income Distribution, Australia, 1978-79, Individuals (Preliminary)* (6501.0). Further details for individuals, families and income units, are being published progressively.

Questions were asked in respect of each person aged 15 years or over, except those attending school full-time, on the amount of income received in 1978-79 from each of the following sources: wages or salary; own business, profession, farm, etc. (net income); share in a partnership (net income); government social security and welfare cash benefits; superannuation; interest, dividends, rent, etc.; other sources.

Although some respondents referred to personal records, in many cases answers were based on memory. Some understatement in the estimates may be expected because of imperfect recall, particularly of minor or irregular sources of income, or because of misunderstanding of the questions.

Definitions

Median income is the amount which divides the distribution into two equal groups, one having incomes above the median and the other having incomes below it. Medians were calculated from grouped data with linear interpolation being used within the class interval in which the median fell.

Mean income is the amount obtained by dividing the total income of a group by the number in that group.

Reliability of the estimates

Since the estimates are based on information from occupants of a sample of dwellings, they may differ from the figures that would have been produced if all dwellings had been included in the survey. One measure of the likely difference is given by the *standard error* (for definition see page 161). All estimates in the table below have standard errors of less than 18 per cent. An estimate of 100,000 persons would have a standard error of approximately 5.5 per cent. Standard errors of the medians and means are less than 1 per cent.

INDIVIDUALS : ALL INCOME RECIPIENTS : TOTAL INCOME, 1978-79

		Number ('000)			Cumulative per cent of total		
		Males	Females	Persons	Males	Females	Persons
Total income (\$)							
1 and under	250	27.7	295.7	323.3			
250 "	500	18.9	361.8	380.7			
500 "	750	24.7	140.9	165.5			
750 "	1,000	22.0	213.5	235.5			
1,000 "	2,000	125.2	369.3	494.4			
2,000 "	2,500	217.3	320.6	537.8			
2,500 "	3,000	230.1	491.4	721.4			
3,000 "	3,500	168.2	329.6	497.9			
3,500 "	4,000	124.0	183.1	307.1			
4,000 "	4,500	108.4	180.1	288.5			
4,500 "	5,000	92.8	144.7	237.4			
5,000 "	6,000	225.6	252.5	478.1			
6,000 "	7,000	192.6	245.5	438.0			
7,000 "	8,000	247.9	234.2	482.0			
8,000 "	9,000	319.3	262.6	581.9			
9,000 "	10,000	344.1	209.2	553.3			
10,000 "	11,000	397.2	163.0	560.2			
11,000 "	12,000	310.2	104.7	414.9			
12,000 "	13,000	320.5	74.1	394.6			
13,000 "	14,000	241.6	49.3	290.8			
14,000 "	15,000	205.2	40.2	245.4			
15,000 "	16,000	170.4	33.0	203.4			
16,000 "	18,000	247.9	34.4	282.3			
18,000 "	20,000	141.2	16.6	157.8			
20,000 "	25,000	164.8	16.1	180.8			
25,000 and over		122.1	13.8	135.9			
Total		4,809.7	4,779.3	9,589.1	100.0	100.0	100.0
—dollars—							
Median income		9,740	3,300	6,290			
Mean income		10,170	4,720	7,450			

Annual leave and long service leave

The majority of employees in Australia at present receive four weeks paid annual leave.

Four weeks annual leave was granted to State government employees in New South Wales in 1964, in South Australia in 1971 and in Tasmania in October 1972. Australian Government employees received the entitlement in 1973, as did State Government employees in Victoria, Queensland and Western Australia. (Northern Territory Government employees are entitled to four weeks annual leave.)

In December 1973, Queensland day workers employed under State awards were granted four weeks paid annual leave. Subsequently, workers covered by State awards in other States were granted similar benefits.

In May 1974, the Australian Conciliation and Arbitration Commission granted four weeks paid annual leave to persons employed under the Metal Industry Award, to accrue from 1 January 1974. As a result, this benefit was extended to other Federal awards. In addition to the leave entitlement, workers also received a leave bonus which varies in amount (but a 17½ per cent addition to leave pay is a frequent provision in awards).

Paid long service leave, i.e. leave granted to workers who remain with the one employer over an extended period of time, has been included in the provisions of Federal and State industrial legislation and industrial awards. Most employees in Australia are now entitled to at least thirteen weeks paid long service leave after fifteen years continuous employment with the one employer. For employees in certain industries and for some employees of the Australian and State Governments, long service leave entitlements are more generous. In all cases the transfer of ownership of a business does not constitute a break in continuity of service with the same employer.

In May 1979, a survey based on the monthly population survey (see the section *The Population Survey* earlier in this chapter) was conducted throughout Australia in order to obtain information about the incidence and extent of annual and long-service leave-taking within Australia. Results of this survey were published in *Annual and Long-service Leave, May 1979* (6317.0).

INDUSTRIAL DISPUTES

The tables in this section refer to disputes involving stoppages of work of ten man-days or more: statistics of persons affected at establishments other than those at which the stoppages occurred are *not* included.

The statistics were compiled according to the Australian Standard Industrial Classification (ASIC), described in the ABS publication *Australian Standard Industrial Classification (Preliminary Edition)*, 1969, Vol. 1. From 1980 they will be based on the 1978 edition of ASIC.

Detailed information, including explanatory notes, definitions, etc. on industrial disputes involving stoppages of work, is given in the annual publication *Labour Statistics, Australia* (6101.0). A table showing statistics of industrial disputes for each year from 1913 is contained in the Appendix to *Labour Report* No. 58, 1973. Current statistics are published in the monthly publication *Industrial Disputes, Australia* (6321.0). Quarterly and annual figures are published in *Industrial Disputes, Australia* (6322.0).

In previous issues of this publication figures shown in all tables in this section related to disputes which were *in progress* during the year, and included both disputes not settled at the end of the current year and disputes not settled at the end of the previous year. Figures contained in tables on pages 175 and 176 are still on this basis i.e. they relate to disputes *in progress* in the year, but figures relating to cause, duration and method of settlement on pages 178 and 179 now relate only to disputes which *ended* in the reference year. Consequently figures for 1977 and 1978 on pages 178 and 179 differ from those previously published in this publication.

INDUSTRIAL DISPUTES: INDUSTRIES, 1974 TO 1979

Year	Manufacturing				Transport and storage; communication				All industries
	Mining	Metal products, machinery and equipment		Other	Construction	Stevedoring services	Other	Other industries (a)	
	Coal	Other							
NUMBER OF DISPUTES									
1974	201	178	700	422	350	363	227	368	2,809
1975	175	188	681	388	309	279	183	229	2,432
1976(b)	172	203	510	341	302	139	179	209	2,055
1977	247	194	501	361	258	85	203	241	2,090
1978	287	238	584	355	178	161	192	282	2,277
1979	256	221	598	266	136	94	176	295	2,042
WORKERS INVOLVED (DIRECTLY AND INDIRECTLY) ('000)									
1974	55.3	57.1	685.8	151.1	517.3	99.9	124.0	314.4	2,004.8
1975	49.5	33.0	553.5	190.5	158.4	46.9	125.5	240.7	1,398.0
1976(b)	65.7	73.4	484.4	426.2	264.8	35.4	294.7	545.5	2,189.9
1977(c)	48.2	31.4	111.3	101.9	51.5	19.2	105.1	127.6	596.2
1978	52.3	45.3	465.3	163.9	57.1	65.2	100.0	126.3	1,075.6
1979	107.9	58.2	395.6	276.3	134.4	48.4	201.6	639.1	1,862.9
WORKING DAYS LOST ('000)									
1974	163.0	146.5	2,850.8	756.7	1,188.7	111.1	516.2	559.4	6,292.5
1975	343.3	90.0	1,279.2	464.1	497.0	46.2	146.7	643.5	3,509.9
1976(b)	159.1	215.0	775.0	856.5	535.8	37.1	388.0	832.6	3,799.2
1977(c)	102.8	170.9	204.4	455.7	215.2	39.9	172.6	293.3	1,654.8
1978	142.3	125.1	732.1	490.2	134.1	122.9	166.9	217.2	2,130.8
1979	232.6	283.6	929.7	749.0	359.7	114.3	435.8	859.7	3,964.4
ESTIMATED LOSS IN WAGES (\$'000)									
1974	3,657	3,956	54,069	16,016	27,169	1,969	10,301	11,164	128,302
1975	11,457	2,808	33,073	11,990	14,861	1,181	3,737	16,655	95,761
1976(b)	6,165	7,780	22,235	23,866	18,659	1,003	11,573	23,271	114,552
1977(c)	4,591	7,300	6,906	14,714	8,218	1,307	6,386	10,252	59,674
1978	7,228	5,513	24,988	17,396	5,345	4,331	5,806	7,796	78,404
1979	10,370	12,634	32,860	26,993	13,700	4,266	15,791	32,000	148,614

(a) ASIC divisions A, D, F, I to L. (b) Includes Medibank stoppages in June and July which involved an estimated 1,570,000 workers and resulted in a loss of 2,060,000 working days and \$59,060,000 in wages. (c) Excludes an estimated 150,000 Victorian workers stood down as a result of the electricity supply dispute in October in that State (but at establishments other than those at which the stoppage occurred). These workers lost an estimated 2.1 million working days.

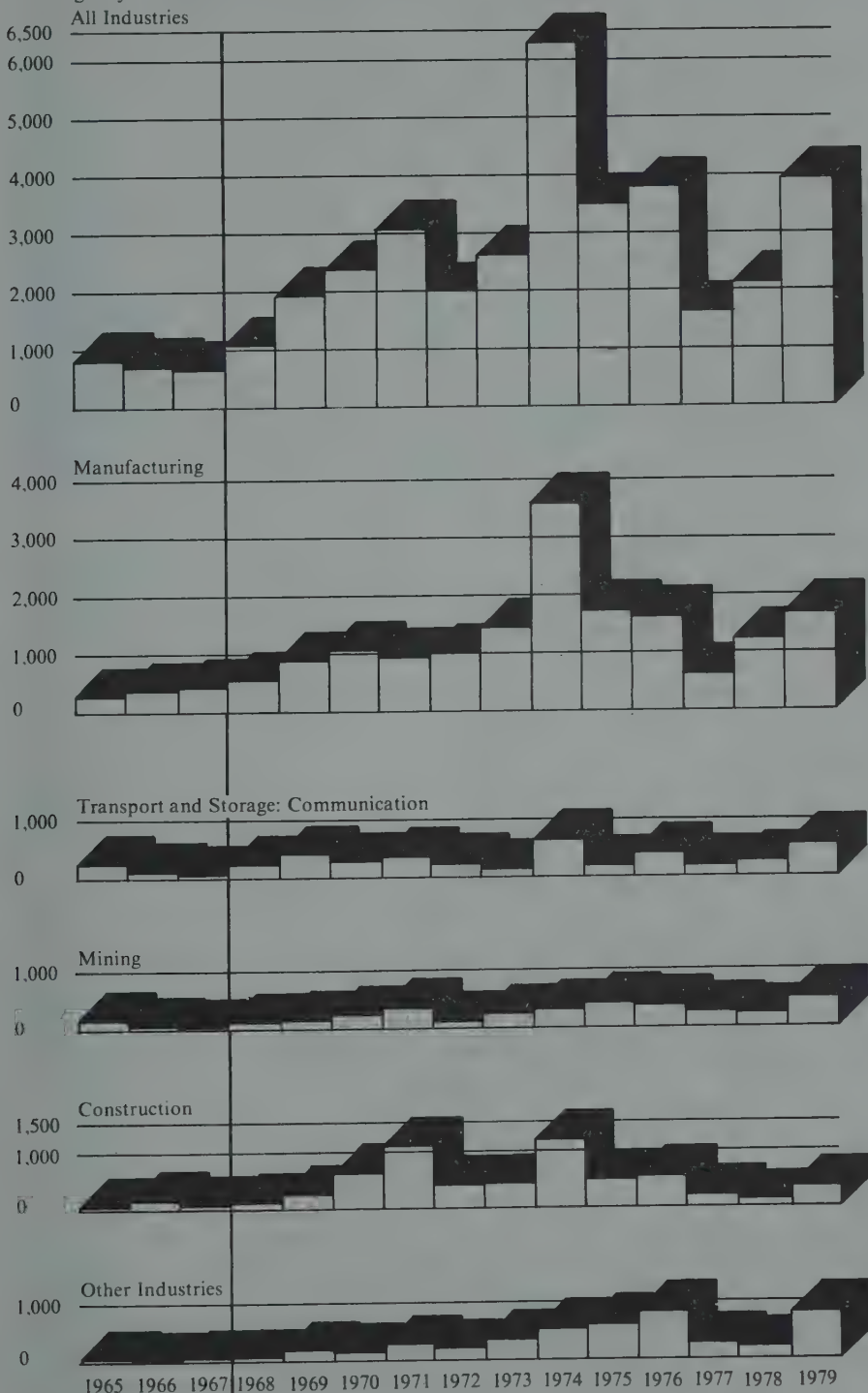
INDUSTRIAL DISPUTES: WORKING DAYS LOST, INDUSTRIES
(^{'000})

<i>ASIC division</i>	<i>ASIC industry</i>	1977	1978	1979
A	Agriculture, forestry, fishing and hunting	0.3	—	54.5
B	Mining	273.7	267.4	516.2
	Coal mining	102.8	142.3	232.6
	Other mining	170.9	125.1	283.6
C	Manufacturing	660.1	1,222.3	1,678.7
	Food, beverages and tobacco	328.7	349.3	379.8
	Textiles; clothing and footwear	20.9	3.1	70.7
	Textiles	20.6	0.7	23.5
	Clothing and footwear	0.3	2.4	47.3
	Wood, wood products and furniture	0.6	0.5	45.7
	Paper and paper products, printing and publishing	19.4	67.2	90.7
	Chemical, petroleum and coal products	23.9	35.7	85.6
	Metal products, machinery and equipment	204.4	732.1	929.7
	Basic metal products	76.4	166.5	208.2
	Fabricated metal products	18.8	168.2	171.1
	Transport equipment	29.0	123.2	272.9
	Other machinery and equipment	80.2	274.1	277.6
	Other manufacturing	62.2	34.4	76.4
	Non-metallic mineral products	36.9	22.7	33.6
	Miscellaneous manufacturing	25.3	11.7	42.8
D	Electricity, gas and water	139.3	71.2	99.7
	Electricity and gas	129.2	52.6	77.7
	Water, sewerage and drainage	10.2	18.6	21.9
E	Construction	215.2	134.1	359.7
F	Wholesale and retail trade	64.5	33.4	207.2
	Wholesale trade	52.5	10.9	85.5
	Retail trade	12.0	22.5	121.7
G,H	Transport and storage; communication	212.5	289.9	550.1
	Railway transport; air transport	110.9	70.1	223.5
	Railway transport	84.1	45.8	146.2
	Air transport	26.9	24.3	77.3
	Water transport	52.7	131.3	123.3
	Stevedoring services	39.9	122.9	114.3
	Water transport (except stevedoring services)	12.9	8.3	9.0
	Road transport; other transport and storage; communication	48.8	88.5	203.3
	Road transport	12.0	56.9	105.3
	Other transport and storage; communication	36.8	31.6	98.0
I	Finance, insurance, real estate and business services	6.8	7.8	70.6
J,K	Public administration and defence; community services	50.2	72.8	328.7
	Health	5.7	8.2	65.9
	Education, libraries, museums and art galleries	27.7	43.1	154.7
	Other	16.9	21.6	108.1
L	Entertainment, recreation, restaurants, hotels and personal services	32.2	31.9	99.1
	Total	(a) 1,654.8	2,130.8	3,964.4

(a) Excludes an estimated 2.1 million working days lost as a result of the electricity supply dispute in October in Victoria (but at establishments other than those at which the stoppage occurred).

INDUSTRIAL DISPUTES: AUSTRALIA

Working Days Lost—Industries



Note: A break exists in the series between 1967 and 1968 due to the adoption of the Australian Standard Industrial Classification (ASIC).

Figures previously shown in the table below have related to all disputes *in progress* during the respective years and hence included details of both disputes not settled at the end of the current year and disputes not settled at the end of the previous year.

The following table now shows, for the years 1977 to 1979, working days lost in industrial disputes which ended in those years, classified according to duration, causes and methods of settlement. Causes (i.e. the direct causes of stoppages of work) are grouped as follows:

Wages—claims involving general principles relating to wages, including combined claims relating to wages, hours or conditions of work. *Hours of work*—claims involving general principles relating to hours of work. *Leave, pensions, compensation provisions, etc.*—claims involving general principles relating to these provisions. *Managerial policy*—disputes concerning managerial policy of employers including computation of wages, hours, leave, etc. in individual cases; docking pay, etc.; dismissals, etc.; principles of promotion, etc.; employment of particular persons and personal disagreements; production limitations, etc. *Physical working conditions*—disputes concerning physical working conditions including safety issues; protective clothing and equipment, etc.; amenities; shortage of, or condition of, equipment or material; new production methods, etc.; arduous physical tasks, etc. *Trade unionism*—disputes concerning employment of non-unionists; inter-union and intra-union disputes; sympathy stoppages; recognition of union activities, etc. *Other*—disputes concerning protests directed against persons or situations other than those dealing with employer-employee relationship; non-award public holidays; accidents and funerals; no reason given for stoppage; etc.

INDUSTRIAL DISPUTES: DURATION, CAUSES AND METHODS OF SETTLEMENT, WORKING DAYS LOST, 1977 TO 1979(a)
(‘000)

	1977	1978	1979
DURATION			
Up to 1 day	210.1	352.3	1,096.8
Over 1 to 2 days	111.2	494.4	275.7
Over 2 to 3 days	158.2	178.6	188.7
Over 3 to less than 5 days	226.0	269.7	1,002.4
5 to less than 10 days	247.4	308.7	495.6
10 to less than 20 days	260.7	295.6	554.9
20 to less than 40 days	279.6	133.3	247.8
40 days and over	157.4	96.4	52.3
Total	(b) 1,650.5	2,128.9	3,887.1
CAUSES(c)			
Wages	833.1	1,029.7	2,041.8
Hours of work	51.1	41.4	114.7
Leave, pensions, compensation provisions, etc.	46.2	24.9	16.9
Managerial policy	421.1	596.9	502.3
Physical working conditions	156.3	111.4	151.7
Trade unionism	75.7	94.2	98.0
Other	67.0	230.4	961.8
Total	(b) 1,650.5	2,128.9	3,887.1

For footnotes see end of table.

**INDUSTRIAL DISPUTES: DURATION, CAUSES AND METHODS OF SETTLEMENT, WORKING DAYS
LOST, 1977 TO 1979(a)—continued**

('000)

	1977	1978	1979
METHODS OF SETTLEMENT(d)			
Negotiation	273.7	325.5	643.8
Mediation	5.5	26.6	28.0
State legislation—			
Under State conciliation, etc., legislation	287.0	130.0	179.2
Intervention, etc. of State Government officials	0.7	3.3	0.6
Federal and joint Federal State legislation (e)	258.3	272.8	277.2
Filling the places of workers on strike or locked out	1.3	0.1	—
Closing down the establishment permanently	—	0.1	0.5
Resumption without negotiation	820.7	1,370.7	2,757.4
Other methods	3.3	—	0.5
Total	(b)1,650.5	2,128.9	3,887.1

(a) Refers to disputes which ended in the year. See page 174.

(b) Excludes an estimated 2.1 million working days lost as a result of the electricity supply dispute in October in Victoria (but at establishments other than those at which the stoppage occurred).

(c) For nature of classification, see text on page 178.

(d) Method directly responsible for ending the stoppage of work.

(e) Includes Industrial Tribunals under (i) Conciliation and Arbitration Act, (ii) Coal Industry Acts, (iii) Stevedoring Act, (iv) Other Acts, and intervention, etc. of Federal government officials.

The following table shows the number of working days lost per 1,000 employees in the years 1974 to 1979. For classification of causes see grouping on page 178. The figures have been revised following the publication of revised civilian employment figures in *Civilian Employees, Australia, June 1966 to June 1979* (6214.0). Revised figures for earlier years are shown in *Industrial Disputes, Australia, December Quarter and Year 1979* (6322.0).

INDUSTRIAL DISPUTES: WORKING DAYS LOST PER 1,000 EMPLOYEES

	1974	1975	1976	1977	1978	1979
All causes	1,269	715	771	335	432	785
All causes excluding those not involving employer/employee relationship	1,240	674	343	322	387	576

INDUSTRIAL ACCIDENTS

Statistics of industrial accidents and diseases and workers' compensation are currently available only on a State basis and are included in the various State Year Books and publications. Some work to develop a collection including national totals and estimates on a uniform basis throughout the States began in 1978 and is continuing. Work is proceeding with respect to improving coverage, especially under jurisdictions other than the principal Workers' Compensation Act in each State.

LABOUR ORGANISATIONS

Labour organisations in Australia

Trade unions

For the purpose of these statistics a *trade union* is defined as an organisation, consisting predominantly of employees, whose principal activities include the negotiation of rates of pay and conditions of employment for its members. Returns showing membership by States and Territories at 31 December each year are obtained for all trade unions and employee organisations. Results of this collection are published in the annual bulletin *Trade Union Statistics, Australia* (6323.0). The following table shows the position at the end of each of the years 1974 to 1979. The figures shown have been revised following a review of the collection. For a more detailed explanation of the revisions, see *Trade Union Statistics, Australia, December 1979* (6323.0).

TRADE UNIONS: NUMBER, MEMBERSHIP AND PROPORTION OF TOTAL EMPLOYEES

End of December—	Number of separate unions (a)	Number of members ('000)		Proportion of total employees (per cent)
		Males	Females	
1974	326	1,971.1	806.2	55
1975	317	1,988.1	846.0	56
1976	313	1,959.5	841.2	55
1977	315	1,940.8	860.9	55
1978	316	1,943.6	864.6	55
1979	315	1,943.9	911.2	55

(a) Without inter-State duplication.

In the table above the approximate percentages of wage and salary earners in employment who were members of trade unions are shown. The estimates of employees have been derived by adding figures for employees in agriculture and in private households employing staff to the estimates of employees in all other industries as at the end of each year. The percentages shown should be regarded as giving only a broad indication of the extent of union membership among wage and salary earners because they are based on estimates of *employed* wage and salary earners which are subject to revision. The degree of unemployment of reported union members would affect the percentages for a particular year and comparison over time.

TRADE UNIONS: CLASSIFICATION ACCORDING TO NUMBER OF MEMBERS, 1979

Number of members	Separate unions		Members	
	Number	Proportion of total (per cent)	Number ('000)	Proportion of total (per cent)
Under 100	32	10.2	1.7	—
100 and under 250	39	12.4	6.0	0.2
250 " " 500	27	8.6	10.0	0.3
500 " " 1,000	46	14.6	30.4	1.1
1,000 " " 2,000	45	14.3	62.4	2.2
2,000 " " 5,000	45	14.3	151.9	5.3
5,000 " " 10,000	19	6.0	147.8	5.2
10,000 " " 20,000	24	7.6	360.9	12.6
20,000 " " 30,000	10	3.2	250.4	8.8
30,000 " " 40,000	5	1.6	174.3	6.1
40,000 " " 50,000	9	2.9	410.5	14.4
50,000 " " 80,000	7	2.2	450.7	15.8
80,000 and over	7	2.2	798.1	28.0
Total	315	100.0	2,855.1	100.0

In November 1976 a survey based on the population survey (for details see the section *The Population Survey* earlier in this chapter) was conducted throughout Australia in order to obtain information about the industry and occupation, and some demographic characteristics, of wage and salary earners who were members of trade unions. Results of the survey are published in *Trade Union Members, November 1976* (6325.0).

Employer and employee organisations registered under Industrial Arbitration Acts, etc.

The Federal *Conciliation and Arbitration Act* 1904 and a number of State industrial arbitration Acts provide for the registration of employer and employee organisations as outlined below. In general, registration is necessary before an organisation may appear before the relevant industrial arbitration tribunal.

In Victoria and Tasmania, where wages and conditions of work in the State sphere are determined by Wages Boards and Industrial Boards respectively, there is no provision in industrial arbitration legislation for registration of trade unions or employer organisations.

Federal. At the end of 1978 the number of employers' organisations registered under the provisions of the *Conciliation and Arbitration Act* 1904 was 80. The number of unions registered at the end of 1978 was 144, with membership of 2,289,600, representing 82 per cent of the total membership of all trade unions in Australia. Lists of organisations of employees and employers registered under this Act are contained in the *Industrial Information Bulletin*, Vol. 30 No. 1, January 1975 published by the former Department of Labour and Immigration. (Branches of employer organisations and unions may also register under various State Acts, as outlined below.)

New South Wales. At 30 June 1979 there were 111 employee unions and 296 employer unions registered under provisions of the *Industrial Arbitration Act* 1940, and 132 employee unions, 11 employer unions, and 2 other unions registered under the *Trade Union Act* 1881. (Unions may register under either or both Acts.) Lists of unions registered under these Acts are included in the *New South Wales Industrial Gazette*. (See Vol. 214 for details at 30 June 1979.)

Queensland. At 31 December 1979 there were 75 employee unions registered under the *Industrial Conciliation and Arbitration Act* 1961–1976 with a reported membership of 349,373. At the same date, 41 employer unions with a reported membership of 36,457 employers were registered. Lists of registered employee and employer unions are published in the annual report of the President of the Industrial Court.

South Australia. At the end of December 1978 there were 8 employer associations and 73 employee associations registered under the provisions of the *Industrial Conciliation and Arbitration Act* 1972 as amended. Membership of these employee associations totalled approximately 200,180.

Western Australia. At 30 June 1979 there were 75 unions of workers, with an aggregate membership of 183,260, registered under the provisions of the *Industrial Arbitration Act*, 1912–1976. At the same date there were 14 registered unions of employers with a reported aggregate membership of 2,092 employers. Lists of registered unions of workers and of employers, together with membership figures, are published in the *Western Australian Industrial Gazette*. (See Vol. 59, Appendix XVII.)

Central Labour Organisations

There are four main central labour organisations in Australia: the *Australian Council of Trade Unions* (ACTU), which came into being in 1927, had approximately 138 unions and Trades and Labour Councils affiliated with it in 1979; the *Council of Australian Government Employee Organisations*, formed in May 1969 by a conference of delegates from 19 affiliated associations of employees which had, at the end of March 1979, 26 affiliated associations and an aggregate membership of 227,578 in the Australian Public Service and instrumentalities; the *Council of Professional Associations* which was formed in 1956 and, at the end of 1978, had 9 organisations with aggregate membership of approximately 30,000 affiliated with it; and the *Australian Council of Salaried and Professional Associations* (ACSPA), formed in 1956 as a council of industrial associations for the purpose of co-ordinating industrial activities on common problems, which had 31 associations with an aggregate membership of approximately 350,000 affiliated with it at the end of 1979. In late 1979, the ACTU agreed to accept the affiliation of the ACSPA, with effect from 1 January 1980.

International Labour Organisation

The International Labour Organisation (ILO) was established on 11 April 1919, as an autonomous institution associated with the League of Nations. Its original constitution was adopted as Part XIII of the Treaty of Versailles. With certain amendments this constitution remains the charter of ILO to this day, bringing governments, employers and trade unions together to discuss international labour and social problems. A new definition of the aims and purposes of the ILO known as the Declaration of Philadelphia, which was added to the constitution at the 1944 Session of the International Labour Conference, asserted the responsibility of ILO in combating poverty and insecurity. In 1946 the Organisation became the first of the specialised agencies of the United Nations. Under the terms of agreement, the United Nations recognises the ILO as a specialised agency having responsibility in the field defined by its constitution, which embraces labour conditions, industrial relations, employment organisation, social security and other aspects of social policy.

The Organisation has three basic parts: the International Labour Conference, its highest authority, which usually meets annually; the Governing Body, its executive council, which usually meets three times each year; and the International Labour Office, which provides the Secretariat of the Organisation. The Conference is composed of delegations from the member States of the Organisation. In May 1980 there were 142 member States, each of which is entitled to be represented by four delegates—two representing the government, one representing the employers and one representing the workers, together with their advisers. Each delegate speaks and votes independently, so that all points of view in each country are fully expressed. The Governing Body consists of the representatives of twenty-eight governments and fourteen employers' and fourteen workers' representatives. Particulars of the proceedings of International Labour Conferences up to the 58th Session and details of ILO conventions ratified by Australia are given in *Labour Report* No. 58, 1973, pages 255–9.

One of the functions of the ILO is to sponsor the International Conferences of Labour Statisticians at which the ABS is usually represented. It is proposed that the next Conference will be held in 1981. These conferences are responsible for recommending and reviewing standards which the ABS adopts whenever practicable.

CHAPTER 9

SOCIAL SECURITY AND WELFARE

The Commonwealth Government, the State Governments and voluntary welfare organisations all provide social welfare services. This chapter concentrates on the benefits and services provided by the Commonwealth Government, principally those of the Departments of Social Security and Veterans' Affairs but mention is also made of the services provided by the Departments of Aboriginal Affairs and Immigration and Ethnic Affairs.

Details of services administered by the Commonwealth Department of Health are given in Chapter 10, Health. Details of pension and superannuation schemes for government and semi-government employees, mine workers, parliamentarians and employees of private business are included in Chapter 21, Private Finance.

Commonwealth Government expenditure on social security services

This section deals with various government payments for the relief of the aged, indigent, infirm, widowed, orphaned and unemployed; assistance to families; etc. For summary statements of cash payments to persons made by public authorities under various functional heads, see *Commonwealth Government Finance, Australia* (5502.0) and other annual publications listed at the end of this chapter.

Under the provisions of section 51 of the Constitution, the Commonwealth Government is empowered to legislate on:

'(xxiii) Invalid and old age pensions:

(xxiiiA) The provision of maternity allowances, widows' pensions, child endowment, unemployment, pharmaceutical, sickness and hospital benefits, medical and dental services (but not so as to authorize any form of civil conscription), benefits to students and family allowances;'

On 1 July 1947, with the passage of the *Social Services Consolidation Act 1947*, all Acts providing social service benefits were amalgamated. The Act is at present styled the *Social Services Act 1947*.

The social security benefits provided by the Commonwealth Government under the *Social Services Act 1947*, and the date on which each came into operation, are shown on page 421 of Year Book No. 61. In addition, a supporting parent's benefit, replacing the supporting mother's benefit, was introduced in November 1977.

AUTHORITIES OF THE COMMONWEALTH GOVERNMENT, SOCIAL SECURITY AND WELFARE CASH BENEFITS TO PERSONS

(\$'000)

	1977-78	1978-79	1979-80
Assistance to aged persons—			
Aged pensions	2,933,897	3,229,013	3,508,755
Delivered meals	1,629	2,280	2,493
Personal care	12,564	13,375	14,468
Telephone concessions	13,244	14,392	15,978
Total	2,961,334	3,259,060	3,541,694
Assistance to incapacitated and handicapped persons—			
Invalid pensions	598,375	690,357	796,367
Sheltered employment allowances	16,190	18,733	22,778
Handicapped children's benefits	18,036	18,235	20,809
Rehabilitation services	14,995	16,885	20,145
Total	647,596	744,210	860,099

AUTHORITIES OF THE COMMONWEALTH GOVERNMENT, SOCIAL SECURITY AND WELFARE
CASH BENEFITS TO PERSONS—*continued*

(\$'000)

	1977-78	1978-79	1979-80
Assistance to unemployed and sick persons—			
Unemployment benefits	794,144	910,012	925,195
Sickness benefits	117,929	113,263	126,631
Special benefits	30,318	37,660	52,932
Structural adjustment assistance	2		
Other	62		
<i>Total</i>	<i>942,455</i>	<i>1,060,935</i>	<i>1,104,758</i>
Assistance to ex-servicemen (a)—			
Disability and dependants pensions and allowances	791,134	851,525	957,179
Other benefits	3,682	2,627	2,743
<i>Total</i>	<i>794,816</i>	<i>854,152</i>	<i>959,922</i>
Assistance to widowed and deserted spouses—			
Widows' pensions	439,497	499,349	561,393
Assistance to families and children—			
Family allowances	1,038,115	974,866	1,035,447
Maternity allowances	7,179	3,231	(b)
Supporting parent's benefit (c)	192,825	226,680	259,596
Orphans pensions	1,943	1,948	2,052
<i>Total</i>	<i>1,240,062</i>	<i>1,206,725</i>	<i>1,297,095</i>
Other social security and welfare programs—			
Funeral benefits	1,551	1,461	1,451
Telephone rental concessions n.e.c.	2,131	2,388	2,884
Compassionate allowances	78	80	83
Assistance to homeless persons	955	974	1,072
Other	960	1,361	1,461
<i>Total</i>	<i>5,675</i>	<i>6,265</i>	<i>6,951</i>
Total social security and welfare	7,031,435	7,580,694	8,331,912

(a) For details see section on Veterans' Affairs in this Chapter. (b) Maternity allowances were abolished from 1 November 1978. (c) Changed from supporting mother's to parent's benefit on 10 November, 1977.

Age and invalid pensions and associated payments

Age pensions are payable to men and women who have reached the ages of 65 and 60 respectively. They are subject to certain residence qualifications and an income test unless the person is permanently blind or has reached the age of 70. For persons over 70 years of age, increases above the base rate are subject to an income test. These payments are subject to tax.

To be residentially qualified for age pension a person must generally be living in Australia on the date of application for the pension and have lived in Australia for ten years continuously at some time.

Invalid pensions are payable to persons sixteen years of age and over who are permanently incapacitated for work to the extent of at least 85 per cent, or permanently blind. In the former case, they are subject to an income test.

There is no residence qualification for invalid pension if the incapacity or permanent blindness occurred within Australia (including an external Territory other than Norfolk Island) or during temporary absence from Australia. As a result, some people not residentially qualified for age pension but who have reached age pension age receive an invalid pension. Invalid pension is subject to tax in these cases but not in others.

A wife's pension is payable to the wife of a pensioner not entitled, in her own right, to an age, invalid or repatriation service pension. There is no residence qualification, but an income test applies. A wife's pension is taxable only if her husband has reached the age of 65.

Rates of pension. The maximum standard rate was increased to \$61.05 a week from May 1980. This is payable to a single, widowed or divorced pensioner, or a married pensioner whose spouse is not receiving a pension or a tuberculosis allowance. The standard rate may also be paid to each of a married pensioner couple who are living apart for an indefinite period due to illness or infirmity of either or both. The maximum rate for married pensioner couple (known as the married rate) was increased to \$101.70 a week from May 1980 (\$50.85 a week each). For a married person whose spouse receives a tuberculosis allowance or a service pension, the maximum rate is also \$50.85 a week.

For qualified persons over the age of 70, the base standard rate is \$51.45 a week and the base married rate is \$85.80 a week. Subject to an income test, these persons can qualify for further amounts not exceeding the rates applicable to those under 70 years of age.

Additional pension for each dependent child under 16 years is payable, subject to the income test, at the rate of up to \$7.50 a week. Widowed or other unmarried age or invalid pensioners with a dependent child may receive a guardian's allowance of up to \$4 a week, or up to \$6 a week if the child is under 6 years of age or is an invalid child requiring full-time care. A guardian's allowance is also subject to the income test. Eligibility for the additional pension for children is extended to include a child over sixteen and under the age of 25 years provided he is wholly or substantially dependent on the pensioner and is receiving full-time education at a school, college or university. Supplementary assistance of up to \$5 a week (standard rate pensioners) and \$2.50 a week (married rate pensioners) subject to a special income test, is available to pensioners if they pay rent or pay for board and lodging or for lodging.

On the death of one member of a married pensioner couple, the surviving pensioner spouse becomes entitled to receive, for up to six fortnightly instalments, the equivalent of the two pensions that would have been paid if the spouse had not died. For the purpose of this provision the term 'pensioner' includes a person in receipt of age, invalid, wife's or repatriation service pension, or a sheltered employment allowance.

A table showing the maximum rates of pension operating since 1 July 1909 at dates prior to 14 October 1965 is included on page 608 of Year Book No. 51. Details of the respective rates and allowances payable in recent years are shown in the Annual Reports of the Department of Social Security.

The *income test* is the same for age and invalid pension purposes. As already noted, it does not apply to the permanently blind or, in the case of age pensions, to people who have reached 70 years of age unless they wish to claim payment above the base rate. In other cases, the income test operates to reduce pension payable if a claimant's *income as assessed*—in effect, the claimant's annual income—exceeds prescribed limits. In the case of a person entitled to the standard rate of pension, the limit is \$1,040; in other cases, it is \$897. If income as assessed exceeds these figures, half the excess is subtracted from the appropriate maximum rate of pension. If income as assessed does not exceed these figures, the appropriate maximum rate is payable.

The effect of the income test is to preclude from entitlement to any pension a person subject to the income test and whose income exceeds \$142.10 a week. The corresponding figure for a married couple without children is \$118.95 a week (each partner).

Supplementary assistance is subject to a special income test, the effect of which is to reduce the maximum annual rate by the excess of a person's income as assessed over \$52 (standard rate pensioner) or half the excess of income as assessed over \$52 (married rate pensioners).

Certain types of income are exempted. The main exemptions are: gifts or allowances from children, parents, brothers, or sisters; benefits from friendly societies; family allowances; Commonwealth Government health benefits and amounts received from registered hospital or medical benefit organisations. The amount of a pensioner's income included in income as assessed may also be reduced by up to \$6 per week for each dependent child under sixteen years in the pensioner's care or full-time dependent student.

For the purposes of the income test, the income as assessed of a married person is normally taken to be half of the combined income as assessed of the married couple. Exceptions may be made where the spouses are legally separated or where other special circumstances exist.

AGE PENSIONERS: 30 JUNE

Age	1978	1979	1980
60-64 years	164.9	- '000-	156.2
65-69 years	334.4	159.6	345.7
70-74 years	330.4	341.7	349.4
75 years and over	435.1	339.9	470.7
Total	1,264.8	1,292.5	1,321.9
Percent of aged population (a) %	78.3	77.9	77.9
Number admitted during year (b)	120,560	96,184	96,488
Total payments during year (c) \$'000	2,933,897	3,229,013	3,508,755

INVALID PENSIONERS: 30 JUNE

Age	1978	1979	1980
16-19 years	7.5	-'000- 7.8	7.9
20-39 years	42.0	45.3	48.1
40-59 years	110.0	119.3	124.7
60-64 years	41.4	42.9	43.8
65 years and over	4.1	4.5	4.8
Total	204.9	219.8	229.2
Number admitted during year	43,173	43,804	40,356
Total payments during year (c) \$'000	598,375	690,357	796,367

(a) Per cent of persons of pensionable age (males aged 65 years and over and females aged 60 years and over). (b) Excludes transfers from wives pensions. (c) Includes allowances, supplementary assistance and wives pensions where applicable.

Sheltered employment allowance and associated payments

Sheltered employment allowance is payable to disabled people who are employed in sheltered workshops and are otherwise qualified to receive an invalid pension or would become so qualified if they ceased to be provided with sheltered employment. The allowance is subject to the same income test as applies to invalid pension and is paid at the same rate. It is payable in the form of a supplement to the sheltered employee's wages. The allowance is not taxable unless the sheltered employee has reached age pension age.

A sheltered employee is entitled to the same additional payments as an invalid pensioner except that no supplementary assistance is payable. Instead, all people in receipt of sheltered employment allowance receive an incentive allowance of \$5 a week. There is no income test on the allowance, but a person precluded by his or her income from receiving sheltered employment allowance is not entitled to incentive allowance.

All sheltered workshops are required to pay sheltered employment allowances on behalf of the Department of Social Security. At 30 June 1980, 160 workshops were paying the allowance to 7,597 disabled employees. Expenditure during the year 1979-80 was \$22,778,000.

Widows' pensions and associated payments

There are three categories of widow pensioners:

Class 'A'. A widow who has the custody, care and control of one or more qualifying children under the age of sixteen years or dependent full time student aged 16-24;

Class 'B'. A widow who, because she has no qualifying children or students in her custody, care and control, is not eligible for a Class 'A' widow's pension but is either at least 50 years of age or, after having reached the age of 45, has ceased to receive a Class 'A' pension by reason of ceasing to have the custody, care and control of a qualifying child or student; and

Class 'C'. A widow not eligible for Class 'A' or Class 'B' widow's pension, who is under 50 years of age and is in necessitous circumstances following her husband's death. In normal circumstances, the Class 'C' pension is not payable after 26 weeks have elapsed from the death of the husband, but if the widow is pregnant the period is extended until the child's birth, whereupon the widow may then become eligible for a Class 'A' widow's pension.

For classes 'A' and 'B', the term 'widow' includes: a wife who has been deserted by her husband for a period of at least six months; a divorcee; and a woman whose husband has been in prison for at least six months and a woman whose husband is a mental hospital patient. A woman who, although not legally married, has been living with a man for at least three years as his wife on a *bona fide* domestic basis and subsequently loses her partner by reason of death is treated as though she had been legally married to him.

A residence qualification applies unless the claimant and her husband were residing permanently in Australia, or an external territory other than Norfolk Island, when she became a widow.

A widow's pension is not payable to a woman receiving an age or invalid pension, a supporting parent's benefit, an unemployment, sickness or special benefit, a sheltered employment allowance, or a war widow's pension.

Current rates of pension. With effect from May 1980, the maximum rate of pension for all classes of widow is \$61.05 a week plus, in the case of widows with children, a mother's allowance of \$4 a week or \$6 a week where at least one child is under 6 or is an invalid requiring full-time care, plus \$7.50 a week for each dependent child who is under 16 years or is a dependent full-time student. Supplementary assistance of up to \$5 a week is also available to widows who pay rent, or for board and lodgings or for lodgings, and who are wholly or substantially dependent on their pension. The amount of this assistance cannot exceed the amount of rent paid.

It should be noted that a deserted wife ineligible for Class 'A' or Class 'B' widow's pension because six months have not expired from the date of desertion by her husband may be eligible for assistance from the Government of the State in which she lives. The Commonwealth Government subsidises all States (except Victoria and South Australia) for this purpose under the States Grants (Deserted Wives) Act. Victoria and South Australia withdrew from the scheme on 1 January 1980 and 1 July 1980 respectively, and women in these two States who were previously assisted under the Act may now receive special benefit. The Commonwealth Government also assists deserted wives in the Territories during the first six months after desertion.

CLASS A AND B WIDOW PENSIONERS, BY AGE: 30 JUNE 1980

Category	Under 20	20-29	30-39	40-49	50-59	60 and over	Total	Per cent
				- '000 -				
Class 'A'	0.2	18.2	37.0	24.2	11.4	0.2	91.1	54.9
Class 'B'	—	—	—	2.8	55.6	16.6	74.9	45.1
Total Class 'A' and 'B'	0.2	18.2	37.0	27.0	67.0	16.8	166.1	100.0
				- per cent -				
	0.1	11.0	22.3	16.3	40.3	10.1	100.0	

At 30 June 1980, 91,565 widow pensioners were receiving additional pension for 177,593 children.

WIDOWS' PENSIONS

Year	Number admitted —all classes (a)	Pensions current at end of year				Average weekly pension at end of year (b)	Amount paid in pensions during year (b) (c)
		Class 'A'	Class 'B'	Class 'C'	All classes		
1974-75	24,636	66,518	54,177	96	120,791	44.89	\$ 241,392
1975-76	27,609	71,009	58,408	74	129,491	49.90	\$ 325,260
1976-77	32,468	76,059	63,329	97	139,485	55.71	\$ 370,201
1977-78	34,624	82,392	67,461	103	149,956	59.90	\$ 439,497
1978-79	36,233	88,683	71,941	123	160,747	61.53	\$ 499,349
1979-80	34,319	91,142	74,922	118	166,182	69.17	\$ 561,393

(c) Includes payments to

Supporting parent's benefit

Supporting parent's benefit was introduced in November 1977 to extend to supporting fathers the same benefit as had previously been available to supporting mothers through supporting mother's benefit. The benefit is for any lone mother who is supporting a child and who is either not entitled to, or does not wish to claim widows pension, and to lone fathers who are supporting a child; parents who are the deserted or deserting partner of a de facto relationship, de facto spouses of prisoners or separated spouses. The benefit becomes payable six months after the date of the event giving rise to eligibility (e.g. six months after the date of birth of a child, or six months after the date of separation). There is a residence qualification if the claimant was not living in Australia at the time of becoming a supporting parent. To be eligible for the benefit a person must be supporting a qualifying child under the age of sixteen years, or an older, dependent, full-time student. The rate of supporting parent's benefit, including guardian's allowance and payments for children, is the same as for the Class 'A' widow's pension. It is also subject to the same income test as the Class 'A' widow's pension and is taxable.

It should be noted that a woman ineligible for supporting parent's benefit because six months have not expired from the date of the event otherwise giving rise to eligibility may be entitled in the meantime to assistance from the Government of the State in which she lives. The Commonwealth Government subsidises all States (except Victoria and South Australia) for this purpose under the States Grants (Deserted Wives) Act. Victoria and South Australia withdrew from the Scheme on 1 January 1980 and 1 July 1980 respectively, and women in these two States who were previously assisted under the Act may now receive special benefit. If the woman is living in one of the Territories, the Commonwealth Government may make assistance available in the first six months after desertion.

SUPPORTING PARENTS BY AGE AND TYPE: 30 JUNE 1980

Type of beneficiary	Under 20	20-29	30-39	40-49	50 and over	Total	Per cent
				—'000—			
Unmarried mother	5.2	18.8	4.2	0.8	0.1	29.0	41.2
Separated wife	0.4	12.3	11.3	4.0	0.9	28.8	40.9
Defacto wife	0.5	4.5	2.4	1.0	0.3	8.8	12.4
Father	—	0.5	1.6	1.1	0.6	3.8	5.4
Total	6.1	36.1	19.4	6.9	2.0	70.4	100.0
				—per cent—			
	8.6	51.2	27.6	9.8	2.8	100.0	..

At 30 June 1980, 70,425 supporting parents were receiving additional benefit for 118,376 children.

SUPPORTING PARENT'S BENEFIT

	1977-78	1978-79	1979-80
Number admitted during year	25,935	26,451	28,581
Beneficiaries current at end of year—			
Females	57,433	59,365	66,604
Males	2,069	3,133	3,821
Total	59,502	62,498	70,425
Average weekly benefit at end of year (a)	\$ 69.37	70.99	78.97
Amount paid in benefits during year (a)	\$'000 192,825	226,680	259,596(b)

(a) Includes supplementary assistance and allowances.

(b) Includes \$966,000 paid to beneficiaries overseas.

Fringe benefits

The Commonwealth Government makes available to pensioners and recipients of supporting parent's benefits several 'fringe benefits'. In most cases these are subject to a special income test requiring that the person's income, apart from pension or benefit, be less than \$40 a week in the case of a single person, or \$68 a week combined in the case of a pensioner couple. These benefits include:

- a comprehensive range of pharmaceuticals free of charge;
- a one-third reduction in telephone rental;
- a 50 per cent reduction in fares for Commonwealth Government railway and shipping services;
- certain postal concessions;
- a 10 per cent discount on book purchases from Australian Government Publishing Service Bookshops;
- free hearing aids;
- free optometrical consultations; and
- nursing home benefits without joining private hospital insurance fund.

State Governments, local government authorities and private organisations also provide certain fringe benefits. The most valuable of these are reductions in local government rates and in public transport charges.

Funeral benefits

A funeral benefit of up to \$20 is payable to any person liable for the funeral costs of an age or invalid pensioner. A higher benefit of up to \$40 is payable to an age, invalid, wife, widow pensioner or supporting parent beneficiary liable for the funeral cost of a spouse, a child or another such pensioner. For those benefits 'pensioner' means a person who satisfies, or has satisfied, the pensioner fringe benefits income test.

FUNERAL BENEFITS GRANTED

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
\$20 grants in respect of—						
Age or invalid pensioners	27,333	24,190	25,436	23,905	22,168	21,645
Others	18	17	13	20	23	62
<i>Total</i>	<i>27,351</i>	<i>24,207</i>	<i>25,449</i>	<i>23,925</i>	<i>22,191</i>	<i>21,707</i>
\$40 grants in respect of—						
Age or invalid pensioners	25,879	24,195	24,720	24,590	24,022	24,230
Others	2,233	1,898	1,447	1,294	944	894
<i>Total</i>	<i>28,102</i>	<i>26,093</i>	<i>26,167</i>	<i>25,884</i>	<i>24,966</i>	<i>25,124</i>
Total grants	55,453	50,300	51,616	49,809	47,157	46,831

Total cost of funeral benefits granted during 1979-80 was \$1,451,000.

Unemployment and sickness benefits and associated payments

Unemployment and sickness benefits are paid to men over sixteen and under sixty-five years of age, and to women over sixteen and under sixty years of age, who are unemployed or temporarily incapacitated for work. They must have been living in Australia during the preceding twelve months or be likely to remain permanently in Australia. Both benefits are subject to an income test. A person cannot receive both benefits simultaneously, nor can a person receive either benefit at the same time as an invalid, widow's, repatriation service pension or supporting parent's benefit.

For unemployment benefit purposes, a person must establish that he is unemployed, that his unemployment is not due to industrial action by himself or by members of a union of which he is a member, that he is capable and willing to undertake suitable work, and that he has taken reasonable steps to obtain such work. Registration for employment with the Commonwealth Employment Service is necessary. For sickness benefit purposes, a person must establish that he is temporarily incapacitated for work because of sickness or accident and that he has thereby suffered a loss of salary, wages or other income.

Rates of Benefit. The maximum weekly rates of unemployment and sickness benefit payable in respect of benefit periods which commenced after the introduction of increased benefits in May 1980, are as follows:

	Maximum Weekly Rate	
	Unemployment benefit	Sickness benefit
	\$	\$
Married person (including additional benefit for spouse)	101.70	101.70
Single person aged 18 or more with dependants	61.05	61.05
Single person aged 18 or more, no dependants	51.45	61.05
Single person under 18 years	36.00	36.00

These amounts are increased by \$7.50 for each child under sixteen years or full-time student in the care of the beneficiary.

After the benefit has been paid for six consecutive weeks a sickness beneficiary who is paying rent or is paying for lodging or board and lodging may be entitled to a supplementary allowance of up to \$5.00 a week. The amount of any such allowance cannot exceed the amount of rent paid.

The weekly rate of benefit is reduced by the amount by which a beneficiary's other income exceeds the amount of permissible income. The income of the spouse is also taken into account unless the claimant and his spouse are permanently separated. For sickness benefit purposes the income from an approved friendly society or other similar approved body in respect of the incapacity for which sickness benefit is payable is disregarded. 'Income' does not include family allowance or other payments for children, Commonwealth health benefits and payments from registered health benefit organisations, or an amount paid in reimbursement of medical, dental or similar expenses. The supplementary allowance is reduced by the amount by which a beneficiary's other income exceeds \$1.00 a week in the case of a single person and by half of the excess of the beneficiary's income over \$2.00 a week in the case of a married person.

The amount of compensation, damages or similar payment, or war pension, if paid in respect of the same incapacity as that for which sickness benefit is claimed, is deducted from the sickness benefit if it is paid in respect of the same period. If it is not paid in respect of the same incapacity, compensation in respect of the same period is regarded as income and war pension is ignored.

There is a waiting period of seven days during which unemployment or sickness benefit is not usually payable, but this waiting period is not required to be served more than once in any period of thirteen weeks.

Special benefit

A special benefit may be granted to a person not qualified for unemployment or sickness benefit who is not receiving an age, invalid or widow's pension, a service pension or a tuberculosis allowance and who, because of age, physical or mental disability or domestic circumstances, or any other reason, is unable to earn a sufficient livelihood for himself and his dependants. Recipients of special benefits include, among others, unmarried women for a period before and after the birth of a child, persons caring for invalid parents or sick relatives/children, and persons ineligible for a pension because of lack of residence qualifications.

Special benefits are also paid to immigrants who are in Commonwealth Government centres or hostels awaiting their first placement in employment in Australia. During this time they receive a short instruction in English and in Australian conditions to facilitate their assimilation into the community and employment.

Special benefits may be granted to persons in Victoria and South Australia who were previously assisted under the States Grants (Deserted Wives) Act. Victoria and South Australia ceased participating under the Act on 1 January 1980 and 1 July 1980 respectively.

No income test or residence requirement is laid down, but there is an overriding requirement that a person must be suffering hardship to be granted a special benefit.

The maximum rate of special benefit is the same as for unemployment benefit.

UNEMPLOYMENT, SICKNESS, AND SPECIAL BENEFITS

Year	Number admitted to benefit during year			Average number of persons on benefit at end of each week			Amount paid in benefits		
	Unemployment	Sickness	Special (a)	Unemployment	Sickness	Special (a)	Unemployment	Sickness	Special (a)
							(\$'000)	(\$'000)	(\$'000)
1974-75	701,302	131,377	17,731	116,603	24,346	5,222	251,740	62,833	10,679
1975-76	891,904	153,869	35,085	191,723	28,081	6,628	513,923	92,215	16,746
1976-77	803,461	148,508	40,299	215,871	32,385	8,039	618,074	105,408	21,657
1977-78	879,637	145,910	42,706	265,828	34,724	9,795	794,144	117,929	29,743
1978-79	810,500	133,000	48,700	306,200	33,400	12,000	910,012	113,263	36,491
1979-80	792,300	142,100	66,850	306,300	36,100	15,850	925,195	126,631	49,273

(a) Excludes special benefits to migrants in accommodation centres.

Family allowances

A family allowance is paid to a person caring for children under sixteen years or full-time students aged 16-24 years who are wholly or substantially dependent on that person. Family allowance is not paid for students receiving Tertiary Education Assistance Scheme or other related Commonwealth education allowances. Payment is usually made to the mother. Approved charitable, religious or government institutions are paid family allowances for children in their care.

Twelve months residence in Australia is required if the claimant and the child were not born here, but this requirement is waived if the Department of Social Security is satisfied that they are likely to remain in Australia permanently. Under certain conditions, family allowance may be paid to Australians who are temporarily absent overseas.

Rates of allowance. The monthly rates are \$15.20 for the first or only child; \$21.70 for the second; \$26.00 for the third; \$26.00 for the fourth; and \$30.35 for each subsequent child. The rate payable for each child or student in an approved institution is \$21.70 a month.

Some details of family allowance payments are shown in the following table.

FAMILY ALLOWANCES: 1979-80

Number of children and students in family	Number of families								Total(a)
	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	
1	251,198	185,212	104,078	65,510	60,344	20,925	6,153	11,241	704,687
2	281,694	223,888	119,655	77,223	73,737	23,921	6,294	15,485	821,941
3	130,160	106,471	60,104	31,308	35,156	11,563	3,504	7,559	385,838
4	39,544	33,282	20,324	8,236	10,257	3,565	1,460	2,232	118,903
5	9,567	8,138	5,730	1,642	2,264	895	556	488	29,280
6	2,896	2,482	1,804	445	649	215	243	120	8,854
7	947	754	654	113	220	72	78	33	2,871
8	299	276	250	44	70	14	21	22	996
9	99	87	90	21	23	7	11	3	341
10 or more	42	46	42	2	11	4	4	2	153
Total	716,446	560,636	312,731	184,544	182,731	61,181	18,324	37,185	2,073,864
No. of children in approved institutions	3,606	2,580	1,623	563	1,422	209	16	15	10,034
No. of approved institutions	131	139	66	65	139	17	7	1	565
Amount paid during year (\$'000)	372,125	283,162	160,358	97,591	91,567	30,549	(b)	(b)	1,035,447(c)

(a) Includes family allowances paid to Australians temporarily abroad. (b) Expenditure for N.T. and A.C.T. included in expenditure for S.A. and N.S.W. respectively. (c) Includes \$22,714,000 paid during 1978-79 in respect of family allowance payable 3 July 1979.

Double orphan's pension

This pension is payable to the guardian of a child whose parents or adoptive parents are both dead, or one of whom is dead and the other missing. It is also payable in cases where one parent is dead and the other is a long-term inmate of a prison or mental hospital. Payment is made for orphans who are under sixteen years or who are full-time students under twenty-five. There is no income test. The pension is payable at the rate of \$47.70 a month for each eligible child. A double orphan's pension is not payable if the child attracts a war orphan's pension under the Repatriation Act. The number of double orphan's pensions at 30 June 1980 was 4,016. The expenditure on these pensions during the year 1979-80 was \$2,052,000.

Handicapped child's allowance

Parents or guardians of a child under sixteen years or a dependent full-time student who is severely handicapped mentally and/or physically, is living in the family home, and needs constant care and attention, are entitled to a handicapped child's allowance of \$65 a month. The allowance is not subject to an income test, but a residence qualification similar to that for family allowance applies. The allowance is also available to persons on low income who are caring for a substantially handicapped child and are suffering severe financial hardship as a result of expenditure associated with the child's disability. The number of handicapped child's allowances being paid at 30 June 1980 was 25,371. The total amount paid through these allowances during the year 1979-80 was \$19,142,000.

Compassionate allowances

These allowances are paid by the Commonwealth Government on a discretionary basis to certain people who are unable to qualify for pensions or other benefits under provisions of the Social Services Act. Expenditure on compassionate allowances and payments of a similar nature, excluding war relief measures, during 1979-80 was \$18,277.

Portability of social service payment

Age, invalid and widows' pensions and supporting parent's benefits continue in force for recipients who have left Australia unless they left before 8 May 1973 or their pension or benefit is subject to the provisions of either of the reciprocal agreements with New Zealand or the United Kingdom. In certain cases of hardship, the pension or benefit may continue for people who left before 8 May 1973.

Reciprocal social services agreements with other countries

New Zealand. An agreement between the Governments of Australia and New Zealand for reciprocity in social services came into operation on 3 September 1943 and was amended from 1 July 1949. The reciprocal arrangements cover age and invalid pensions, widow's pensions, family allowance and unemployment and sickness benefits, and apply to both permanent and temporary changes of residence. Residence in one country may be treated as residence in the other country in relation to

entitlement to benefits in which a residential qualification applies. Persons from one country taking up a permanent residence in the other country become eligible for any of the specified benefits of the new country under the same conditions (with one or two exceptions) as apply to residents of that country. Persons in receipt of any of the specified benefits in one country may continue to receive those benefits while temporarily absent in the other country. There is a limit of thirteen weeks on payment of New Zealand benefits in Australia.

United Kingdom. Under a reciprocal agreement on social services between the United Kingdom and Australia, residence in one country may be treated as residence in the other country as the basis for entitlement to benefits in which a residential qualification applies. Australians going to the United Kingdom for permanent residence are treated in the United Kingdom as if they have been insured under the National Insurance Scheme while in Australia, so that they can qualify for various National Insurance benefits. There is also provision for the safeguard of social service rights for persons going from one country to the other for temporary residence.

Commonwealth Rehabilitation Service (CRS)

The Commonwealth Rehabilitation Service assists people with a long-term disability who are within the broad working age group. It aims to help disabled people to reach their maximum physical, mental, social and vocational usefulness and to assist them to live as independently as possible. Towards this aim, it provides co-ordinated programs of treatment and training to meet the special needs of each disabled person. Responsibility for the delivery of these services rests with the twelve residential and day-attendance centres and the thirteen regional rehabilitation units which are currently operated by the service.

Rehabilitation may also be made available to people aged 14 or 15 years who, without treatment or training, would be likely to qualify for invalid pension at age sixteen.

For those eligible, payment of pension or benefit continues during treatment. When vocational training begins, pension or benefit is suspended and replaced by training allowance. This allowance is determined by the Director-General, Department of Social Security, having regard to the adult male average award wage. Living-away-from-home allowance is paid where necessary. Fares and living expenses (including those of an attendant where required) in connection with treatment, training or attendance for an interview or for medical examination may also be paid. Necessary artificial replacements, surgical aids and appliances may be provided free of charge to a person receiving treatment and training or who needs them to assist him to engage in a suitable vocation after the discontinuance of his treatment and training or who needs them otherwise to assist in his rehabilitation.

Treatment, training and assessment programs are undertaken at rehabilitation centres where occupational therapists, vocational counsellors and qualified tradesmen and commerce teachers determine the skills which make best use of ability and which are best adapted to the person's needs. In addition to the services provided at each centre, technical schools, business colleges, universities, training on-the-job in commerce or industry and correspondence courses are all used for training purposes. Essential text books and equipment may be provided during treatment or training; alternatively, these may be supplied after treatment or training is discontinued to enable a rehabilitee to engage in employment.

As at June 1980, the CRS had a total staff of 1,174 which included 951 full-time, 80 part-time and 143 sessional staff.

Between its inception in 1948 and 30 June 1980, the Rehabilitation Service has assisted some 63,465 severely handicapped people.

Other services of the Department of Social Security

The Department of Social Security provides professional social work service and recently appointed Aboriginal Liaison Officers. It administers grants to major national welfare organisations or distinct bodies such as: Australian Council of Social Service, Australian Council on the Ageing, Australian Council for Rehabilitation of Disabled, Australian Council of Trade Unions for a research unit, Australian Pre-school Association and to non-government welfare agencies providing emergency relief or in financial difficulties.

To assist in its role of advising the government on welfare policy, the Department of Social Security initiates, develops and evaluates experimental projects in social welfare and undertakes research studies.

The Department supports the work of the Social Welfare Research Centre at the University of New South Wales.

Commonwealth Government assistance through welfare organisations

Accommodation for aged and disabled people

The *Aged or Disabled Persons Homes Act 1954* is designed to encourage the provision of homes in which aged persons may reside in conditions approaching normal domestic life.

To be eligible for assistance under the Act an organisation must be:

- (i) carried on otherwise than for the purposes of profit or gain to the individual members; and
- (ii) a religious organisation, an organisation of which the principal objects or purposes are charitable or benevolent, an organisation of former members of the defence forces established in every State or a State branch of such an organisation, an organisation approved by the Governor-General for the purposes of the Act, or a local governing body.

An organisation conducted or controlled by, or by persons appointed by, the Commonwealth or any State Government is not eligible for assistance under the Act.

The Director-General of the Department of Social Security or his delegate may make a grant of money to an organisation as assistance towards meeting the cost of the construction or purchase of a home, including land, to be used permanently for the accommodation of aged persons. The grant is made on a basis of \$2 for each \$1 raised by the organisation but is limited to \$12,100 for a single unit of accommodation and \$14,035 for a double unit plus up to \$1,920 per unit for land. Money which the organisation received from a governmental body other than a local governing body does not attract subsidy.

Before a grant is made the Director-General must be satisfied that the sum of the money expended and the money at present available for expenditure by the organisation towards the capital cost of the home, together with the amount of the grant, will be not less than the capital cost of the home.

The following table gives information regarding grants approved for each of the past six years. The amounts granted in each year include new grants approved in that year together with adjustments made during the year in respect of grants originally approved in earlier years.

AGED OR DISABLED PERSONS HOMES ACT: GRANTS AND AMOUNTS APPROVED AND BEDS PROVIDED

		1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Grants approved	No.	228	33	71	126	74	108
Amount approved	\$'000	37,299	10,531	21,381	23,719	20,357	20,127
Beds provided—							
Self-contained	No.	2,243	385	233	505	376	294
Hostel	"	675	181	769	428	310	456
Nursing	"	992	52	1,015	1,225	884	1,083
Total	"	3,910	618	2,017	2,158	1,570	1,833

Since the commencement of the Act in December 1954, 3,550 grants amounting to \$320,916,277 have been approved, and accommodation has been provided for 64,330 aged and disabled persons.

The Aged or Disabled Persons Homes Act also provides a *personal care subsidy* of \$15 a week paid to eligible organisations for persons of eighty years of age or over and other persons requiring and receiving approved personal care while living in hostel type accommodation provided by organisations eligible under the Aged or Disabled Persons Homes Act. Approximately sixty per cent of hostel residents qualify for payment of the subsidy. The following table gives details of the premises approved, payments made and number of residents aged eighty years or over residing in the approved premises.

AGED OR DISABLED PERSONS HOMES ACT: PERSONAL CARE SUBSIDIES, 30 JUNE 1980

		N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Approved premises	No.	217	189	123	84	69	21	3	2	708
Residents qualifying	No.	5,338	4,962	3,422	2,540	2,726	546	24	98	19,656
Subsidies paid, 1979-80	\$'000	3,960	3,780	2,429	1,965	1,800	431	35	68	14,468

The *Aged Persons Hostels Act 1972* was introduced to stimulate the provision of more hostel-type accommodation for needy aged people.

Under the scheme the Commonwealth Government meets the full cost of providing new hostel accommodation for two aged people for every one at present in an eligible unsubsidised home, or for one additional person for every two in a home previously subsidised on a dollar-for-dollar basis between 1954 and 1957. The organisation is not required to make any contribution from its own resources

unless the capital cost exceeds \$18,150 per person accommodated, or the bed capacity of the new home exceeds the number of 'free' beds to which the organisation is entitled. A further grant of up to \$250 for each person accommodated is available for furnishing the new hostel plus an additional \$2,400 per person for land and/or site development where applicable.

The scheme was limited to a period of three years expiring on 27 September 1975 to encourage organisations to move quickly in taking advantage of the benefits the scheme offered.

This Act had the effect of placing the old established organisations which conducted homes prior to the introduction of the \$2 for \$1 scheme in the same relative position as that achieved by newer organisations which had received a \$2 for \$1 subsidy, i.e. where two-thirds of their accommodation was provided by the Government.

Admission to these homes is based strictly on need with regard to the applicant's health, age, accommodation and financial situation. Since the commencement of the Act, 320 grants have been approved, totalling \$166,530,690 as at 30 June 1980.

Although the Act was terminated for the purposes of approving new projects, amending legislation has preserved the rights of organisations whose projects have been accepted under the Act, but which for one reason or another did not proceed.

AGED PERSONS HOSTELS ACT

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Number of grants during year	148	12	51	53	36	20
Beds provided—						
Hostel beds	5,385	393	1,574	1,704	1,463	680
Staff beds	174	17	56	56	34	13
Total	5,559	410	1,630	1,760	1,497	693
	-\$'000-					
Amount paid during year—						
Capital grants	57,385	11,527	26,562	28,658	27,399	12,186
Furnishings grants	1,357	104	396	442	390	125
Total	58,742	11,631	26,957	29,100	27,789	12,311

Handicapped people

The *Handicapped Persons Assistance Act* 1974-76 replaced both the *Sheltered Employment (Assistance) Act* 1967 and the *Handicapped Children (Assistance) Act* 1970. Under this legislation, eligible organisations may apply for subsidies towards the cost of providing capital projects, maintenance and equipment. Grants are also available in respect of rental and certain salary payments.

Grants on purchases of buildings, equipment etc. take the form of a \$4 subsidy for each \$1 raised by an eligible organisation from non-government sources. Rent is subsidised at a rate equal to 80 per cent of the approved rental paid subject to certain conditions. Salary costs may be subsidised to an amount equal to 100 per cent of salary paid to staff employed in new ventures, but this is reduced to 50 per cent after the premises have been providing the service for 2 years or more.

As well as assisting organisations with establishment and running costs, the legislation also provides financial encouragement to sheltered workshop administrators to provide the type of training for the handicapped which will prepare them, where possible, for open employment. A *training fee* of \$500 is paid to organisations providing approved sheltered employment for each handicapped employee who, having received at least 6 months training in the workshop, graduates to open employment and remains there for at least 12 months.

Introduction of the *Handicapped Persons Assistance Act* in December 1974 also saw the legal transfer of the administration of Handicapped Children's Benefit from the Commonwealth Department of Health to the Department of Social Security. Where an organisation provides approved residential accommodation for mentally or physically handicapped children under 16 years, it becomes entitled to receive a Commonwealth benefit of \$5.00 per day in respect of each resident child.

HANDICAPPED PERSONS ASSISTANCE ACT

	1977-78	1978-79	1979-80
Approved premises (a)	949	1,000	1,061
Number of capital grants during year (b)	2,290	2,459	1,901
Total expenditure during year (c)—		-\$'000—	
New South Wales (d)	12,554	14,280	14,093
Victoria	8,845	11,849	8,699
Queensland	5,243	6,521	4,646
South Australia (e)	6,314	8,284	6,467
Western Australia	3,623	5,065	3,899
Tasmania	1,291	1,600	1,512
Total	37,870	47,599	39,317

(a) Total approved sheltered workshops, activity therapy centres, training centres and residentials as at 30 June. (b) Residential and non-residential buildings, equipment and maintenance. (c) Includes capital and recurrent expenditure. (d) Includes Australian Capital Territory. (e) Includes Northern Territory.

HANDICAPPED CHILDREN'S BENEFIT

	1977-78	1978-79	1979-80
Approved handicapped persons homes (a)	95	106	115
Handicapped children accommodated (a)	1,349	1,151	1,625
Days of benefit paid during year	337,212	340,431	332,706
Total amount paid during year	\$1,686,912	\$1,703,276	\$1,666,714

(a) As at 30 June.

Homeless people

The Homeless Persons Assistance Act was introduced in December 1974 to help non-profit organisations and local governing bodies which provide accommodation, food and social welfare services for homeless men and women.

The Act enables grants to be made to eligible organisations to meet the cost of purchasing, constructing, altering or renting buildings to be used as homeless persons' assistance centres, as well as to meet the cost of purchasing furniture, furnishings and equipment for such centres. Grants also meet half the salary of a social welfare worker employed at a centre. The amount of grants made for these purposes during 1979-80 was \$3,407,629.

A subsidy is also available to help meet the cost of providing food and accommodation for homeless persons at an approved centre, or of meals provided at such centres for non-resident homeless persons. The rate of the food and accommodation subsidy has been prescribed at 75 cents per day and the rate of meals subsidy as 25 cents per meal. During 1979-80 the amount of this subsidy totalled \$1,071,762.

The *Delivered Meals Subsidy Act* 1970 helps organisations to establish, maintain, expand and improve 'meals on wheels' services. The subsidy is at the rate of 30 cents for every meal provided on approved vitamin C supplement and 25 cents for each other meal provided by approved organisations. At 30 June 1980, 671 organisations had received a total subsidy of \$15,015,741 under the Act. During 1979-80 the amount of this subsidy totalled \$2,492,927. Organisations eligible for grants under the Act are the same as those specified under the Aged or Disabled Persons Homes Act.

Children's Services

The Children's Services Program is administered by the Office of Child Care, within the Department of Social Security. It provides grants to State and local Governments and community organisations for a range of services for children and their families. The general principle guiding approval of grants is one of directing assistance on a needs basis.

The Commonwealth aims to develop a flexible network of services for children and their families ranging from early childhood care services, to services for school aged children, for adolescents and for families. The Program also encompasses research, evaluation, information and training projects.

Two components of the Program which are administered jointly with State Governments have been identified as the Family Support Services and the Youth Services Schemes. While these are identified separately as schemes, they are an integral part of the Children's Services Program.

EXPENDITURE ON CHILDREN'S SERVICES PROGRAM
(S'000)

Year	<i>To or for States</i>		<i>Direct to organisations</i>		Total
	<i>Pre-school</i>	<i>Other child care</i>	<i>Pre-school</i>	<i>Other child-care</i>	
1974-75	36,127	1,373	950	6,780	45,230
1975-76	46,535	2,235	494	14,706	63,970
1976-77	49,018	3,118	—	14,951	67,086
1977-78	45,994	7,006	—	18,197	71,197
1978-79	32,750	9,227	—	21,859	63,836
1979-80	33,090	11,090	—	25,046	69,221

Social Security Appeals Tribunals

The Social Security Appeals System provides for persons who are aggrieved by decisions of the Department of Social Security to have a right of appeal to a Social Security Appeals Tribunal. The Tribunals operate in each State and in the Australian Capital Territory and the Northern Territory.

Before any appeal is initiated, when a client of the Department of Social Security is informed of an adverse decision he is also informed that, if he is dissatisfied, he may contact a Review Officer in the Department personally or by telephone, who will be pleased to discuss the case and, if necessary, will review the decision without delay. If the client remains dissatisfied, the Review Officer will explain the Appeals System and, if required, assist the client to lodge an appeal with a Tribunal.

Each Tribunal consists of a full-time member seconded from, but independent of, the Department and two part-time members—one a lawyer and one experienced in the welfare field and for appeals involving medical criteria—a legally qualified medical practitioner. A Tribunal considers the substantial merits of each case without regard to legal forms and technicalities and seeks to ensure that justice is done between the appellant and the Department.

The Tribunals have no power to change decisions but may make recommendations to the Director-General of Social Security that a departmental decision should be changed. The final decision lies with the Director-General who may, but need not, accept the recommendation of a Tribunal.

Jurisdiction is vested in the Administrative Appeals Tribunal and provides for clients of the Department of Social Security to have a further right of appeal to the Administrative Appeals Tribunal where the final decision of the Director-General is not in accordance with a recommendation of a Social Security Appeals Tribunal. Additionally the jurisdiction of the Administrative Appeals Tribunal will be extended to allow a client to seek a review by the A.A.T. of any adverse decision of the Department of Social Security. The relevant regulations will soon be promulgated when administrative arrangements have been completed.

International Year of the Child (IYC)

The International Year of the Child (IYC) concluded on 31 December 1979. The Year was designated by the United Nations as a year of action on behalf of children, and Australia's participation was coordinated nationally by the Minister for Social Security.

Australia's theme for IYC was 'Care'. In line with this, several objectives, including increasing the awareness of the community to the needs of children, were established. This objective was accomplished to a large extent by the national publicity campaign based on the slogan, 'Care for Kids'. The campaign provided a national focal point for IYC activities particularly those at the local level.

Many of the initiatives commenced during 1979 will be continued into the future. A number of these projects have been funded, either partially or wholly under the Children's Services Program.

International Year of Disabled Persons (IYDP)

1981 will be observed as the International Year of Disabled Persons (IYDP). The Minister for Social Security is responsible for coordinating the Commonwealth Government's observance of IYDP.

The Year's theme will be 'Full participation and equality'.

A council of Commonwealth, State and Territory ministers responsible for IYDP has been established. A National Committee of Non-Government organisations for IYDP has been established in conjunction with the Australian Council for Rehabilitation of Disabled (ACROD) to generate and co-ordinate the involvement of the non-government sector in activities for and during the year.

An IYDP unit has been established within the Department of Social Security to provide support services and to coordinate national activities for IYDP.

As part of the lead up to IYDP, the Minister has announced the provision of \$400,000 in grants to help disabled children and each State and Territory will receive \$50,000 to encourage innovative projects.

Social Welfare Policy Secretariat

The Secretariat commenced operation in March 1978 and has a staff of 21 officers some of whom have been seconded from relevant Departments. The Secretariat works through a Permanent Heads Committee (comprising the Heads of the Departments of the Prime Minister and Cabinet, Finance, Health and Social Security) to the Social Welfare Committee of Cabinet.

The Secretariat is essentially a policy co-ordinating, research and servicing organisation. Its prime functions are to ensure the co-ordinated development and review of health and welfare policy; and that appropriate research activities are directed to these ends.

In developing its policy proposals the Secretariat consults with relevant Commonwealth Departments. Whenever relevant the views of interested organisations and individuals are also sought.

Welstat

State Welfare Departments, the Australian Bureau of Statistics and the Department of Social Security are co-operating on a project to develop standardised social welfare statistics (WELSTAT).

State and local government

State Governments are the main providers of direct personal welfare services. Welfare services provided through State departments can be broadly summarised as follows:

- emergency relief and supplementary assistance to people in need;
- preventative, remedial and rehabilitative services for children, young people and families;
- child protection services;
- community and residential care services for dependent and delinquent young people;
- services related to the adoption and foster care of children;
- services related to the development and regulation of early childhood services;
- domiciliary care for the aged.

State departments also provide consultative, developmental and advisory services in the field of community welfare, including funding of some non-government services. State authorities share with the Commonwealth, responsibility for service provision to the young, families, the aged and special groups such as Aborigines and migrants.

Services provided by local government authorities vary between and within states. Generally local governments either provide, subsidise or coordinate service provision for children and for the aged. Services most commonly undertaken by local government include the establishment of infant welfare centres, the provision and maintenance of parks, kindergardens, day nurseries, home help, and emergency services including meals delivered to the aged.

The States also provide services such as domestic assistance for aged persons in their homes in cooperation with the Commonwealth.

Under the States Grants (Home Care) Act 1969 the Commonwealth Government will share with a participating State on a \$1 for \$1 basis the cost of the provision of approved home care services wholly or mainly for aged persons in their homes.

The Commonwealth Government will also share on a \$2 for \$1 basis with participating States up to a maximum of two-thirds of the capital cost for the establishment, extension and equipping of approved senior citizens' centres as well as meeting on a \$1 for \$1 basis with the States the cost of the salary of a welfare officer employed in conjunction with a senior citizens' centre. All States participate in this scheme.

PAYMENTS TO STATES FOR HOME CARE, SENIOR CITIZENS CENTRES AND WELFARE OFFICERS 1979-80

State	Home Care Services	Senior Citizens Centres	Welfare Officers	Total
New South Wales	2,768,851	1,128,802	296,779	4,194,432
Victoria	4,226,355	859,323	574,142	5,659,820
Queensland	1,792,945	330,904	44,519	2,168,368
South Australia	944,199	567,296	68,280	1,579,775
Western Australia	52,250	174,034	69,953	296,237
Tasmania	584,384	184,999	..	769,383
Total	10,368,984	3,245,358	1,053,673	14,668,015

Voluntary agencies

Voluntary agencies have played an important role in the provision of social welfare services in Australia since the earliest days of settlement. The oldest voluntary organisation in Australia is the Benevolent Society of New South Wales, founded in 1818 'to relieve the poor, the distressed, the aged and the infirm'. During the 19th century, voluntary agencies were active in all States providing homes for orphan and abandoned children; industrial schools for older boys and girls often rescued from total destitution in the streets; relief in food and clothing for widows, old people and families of the unemployed; hospitals for the sick poor; and institutions for the aged and invalid.

Although in this century the Commonwealth and State Governments have taken over many tasks formerly carried out by voluntary agencies, this has not led to any diminution in voluntary activity. The voluntary sector is probably more active today than it has ever been, not only in carrying out its traditional role, but also in opening up new fields of activity.

In caring for the aged, voluntary agencies are co-operating with the Government in providing aged persons homes, retirement villages, hostels for the frail aged and nursing homes for the sick aged. In addition to the provision of residential care, voluntary agencies are increasingly offering services to the aged in their own homes to enable them to be independent as long as possible. Services include 'Meals on Wheels', home help, leisure programs in senior citizens centres, friendly visiting to the lonely aged, sheltered workshops to provide meaningful activity, and many similar services designed to enhance the well-being of the aged.

The same pattern of activity is seen in services for the mentally and physically handicapped. Voluntary agencies provide day and residential schools for handicapped children, sheltered workshops for those able to undertake some employment and hostels for the handicapped in both sheltered and open employment. Many organisations provide home visiting services and occupational therapy for the home-bound, special training centres for various forms of rehabilitation, and recreational programs for those unable to participate in general community activities. The handicapped field is also noted for its activities in bringing together self-help groups of the handicapped and their families to promote the well being of the handicapped and to encourage study and research into both prevention and rehabilitation.

Besides the various forms of health services described above, many major hospitals are provided by the voluntary sector. Of the approved hospitals in Australia, almost 15 per cent are run by voluntary organisations. Such hospitals cover a wide range of needs and, in addition, provide nursing training which may ultimately be of service to the full range of hospitals and nursing homes.

Family and child welfare has long been an important area for voluntary activity. Children's homes provide for children deprived of normal home life because of serious problems within the family, in a wide variety of units ranging from the small family group home in an ordinary house in the suburbs to the large unit of cottage homes grouped together. As with other services, recent years have shown a marked emphasis on preventive services through family welfare agencies and a greater use of substitute families in adoption and foster care programs.

Within the modern family welfare agency, assistance is given not only with money and food as in the last century, but also with marriage guidance, parental counselling and home-maker services, all designed to keep the family together as a unit. Other voluntary agencies run services for the single mother or provide day-care services to assist working mothers, in particular the one-parent family or the family under special strain.

The well-being of Australian youth is also a matter of concern to the voluntary sector which runs youth activities of many varieties, offers adolescent counselling services and is showing a growing concern for those who are unemployed, those suffering serious emotional disturbance and those becoming addicted to drugs.

As well as these general community services, special services for Aborigines have been a feature of voluntary activity. Formerly, these were mainly concerned with the mission area, but of late many agencies have been formed, often run wholly by Aborigines, to assist urban and rural dwellers. Legal aid services, 'head start' programs, nutrition programs and many others are now being made available through voluntary effort.

The care of immigrants is also a significant activity and, again, much of this work is now undertaken by settled immigrants in conjunction with longer-established Australians.

Prisoners and ex-prisoners also receive their share of attention. Organisations exist to visit prisoners and assist their families. These will also assist prisoners on discharge to re-settle in the community, either at home, in lodgings or in hostels provided by the agency. Other agencies concern themselves with alcoholics, homeless men and women and others who are temporarily destitute.

This list of activities by no means covers all the work done by the voluntary sector. Lifeline and Samaritans, drug contact centres, drop-in coffee houses, street workers for alienated youth and many

other services are evidence of the continuing ability of the voluntary sector of social welfare to develop and meet new social needs.

Another area of developing interest involves the participation of various kinds of citizen groups in social welfare services. These include Community Information Centres and Community Aid services largely manned by volunteers; groups of clients of social welfare services who provide both a service for their members and liaise with Departmental services on questions of the way service is offered to people in need; and Resident Action groups who are concerned to participate in any replanning of their neighbourhood. This area of citizen involvement can be expected to become more and more important over the next few years.

Studies of social needs and of the quality and the adequacy of present services are a continuing concern of the voluntary sector which, through the work of Councils of Social Service at the State, Territory and national levels, promotes the well-being of the deprived and disadvantaged sections of the community and the general social development of Australia.

Aboriginals

A referendum in May 1967 led to the repeal of section 127 of the Constitution which provided that, in reckoning the numbers for census purposes, Aboriginals should not be counted, and to the deletion of the words 'other than the Aboriginal race in any State' from section 51 (xxvi) which relates to the power of the Commonwealth Parliament to make laws in respect to people of any race. The Commonwealth Government's aim is to help Aboriginals become self-managing and self-sufficient while, at the same time, to preserve and to develop their own distinctive culture. It now shares with the States power to legislate in respect of Aboriginal people. The Commonwealth Government has assumed full responsibility for policy, planning and co-ordination in respect of Aboriginal affairs at the national level, and has established a Department of Aboriginal Affairs with regional offices in all States and the Northern Territory. In November 1973, an election was held by Aboriginals throughout Australia to establish the first National Aboriginal Consultative Committee, a group of forty-one Aboriginals and Torres Strait Islanders elected to advise the Government on Aboriginal needs. At the request of the Committee, the second election, which was scheduled for November 1975, was deferred for nine months. Subsequently, the Government established an independent inquiry into the role of the Committee. As a result of the findings of this Committee of Inquiry, a National Aboriginal Conference (NAC) has been established composed of thirty-five members who are elected for a period of three years. Members meet annually at the national level and at least four times each year in their State or Territory as State or Territory Branches of the NAC.

The executive which meets twice a year is comprised of 10 delegates; half are elected by the members and half are nominated by the Minister. The role of the NAC is to provide a forum in which Aboriginal views can be expressed at State and national level and, in particular, to express Aboriginal views on the long term goals and objectives which the Government should pursue, the programs it should adopt in Aboriginal affairs, and on the need for new programs in Aboriginal affairs. The NAC also participates, through its entitlement to choose five of the ten members, in the work of a new body, the Council for Aboriginal Development. This Council is the body from which the Government seeks formal advice.

Migrants

Accommodation of migrants

Migrants must be assured of accommodation on arrival, unless they have sufficient funds to be independent. For those migrants nominated by relatives or friends, this initial accommodation has usually been in private homes. Assisted migrants and refugees nominated by the Commonwealth Government are provided with transitory accommodation in migrant hostels operated by Commonwealth Accommodation and Catering Services Ltd, a non-profit-making Government-sponsored company. These hostels provide a range of services to help migrants to settle in Australia, including child minding centres, English language classes, youth recreation activities, welfare officers and assistance in obtaining permanent accommodation.

The total capacity of hostels is about 9,600. Additionally 396 two and three bedroom self-contained flats can accommodate migrants nominated by the Commonwealth Government.

British assisted migrants nominated by State Governments are, in most cases, provided with initial accommodation in reception centres operated by the State authorities.

Ethnic affairs and migrant settlement

The Department of Immigration and Ethnic Affairs provides services to facilitate the successful settlement and welfare of migrants, and these services are currently being modified and extended in accordance with the *Report of the Review of Post-Arrival Programs and Services for Migrants* (1978) (the 'Galbally' Report).

In addition, the Department is responsible, through its Ethnic Affairs Branch, which was established in 1976 in accordance with a Cabinet decision, for advancing policies designed to secure the integration of migrants. In particular, through Ethnic Liaison Officers in senior positions in each Commonwealth Government department and authority, it seeks to ensure that the needs of migrants and their integration into Australian society are fully taken into account in the day-to-day operations of the Government.

Departmental social workers and welfare officers provide information and advice, and, in more complex cases, professional counselling for migrants in their own language. They operate from the Regional Offices of the Department in the State capital cities and some are outposted to voluntary welfare organisations, and other centres in areas of high migrant density. They are also involved in community development work and provide consultancy services to other agencies assisting migrant settlement.

Departmental activities are complemented by those of social workers and welfare officers employed by voluntary agencies funded by Commonwealth grants administered by the Settlement Branch. In many respects, these voluntary agencies are best placed to assist migrants.

The recommendations of the Galbally Report envisaged a greater emphasis being placed on the role of non-government agencies. The Commonwealth is therefore increasing the number of grants to agencies and will reduce its own direct services as the latter become effective. Its own professional staff, released from this responsibility, will give greater attention to consultancy and community development in support of the agencies.

The Department provides a translation and interpreting service for migrants and for Commonwealth departments. At the present time translation units are operating in Canberra, Sydney and Melbourne. However in accordance with a recommendation of the Galbally Report, action is being taken to extend this service to other mainland State capitals.

In 1973 a Telephone Interpreter Service (TIS) was introduced to help overcome communication problems by providing over the telephone, in a wide range of languages, a general interpreting, information and referral service for migrants and others having dealings with migrants. Where necessary and especially in emergency situations, arrangements may be made for the personal attendance of an interpreter. TIS currently operates in Canberra, all State capitals, Darwin (on a limited scale) and most major provincial centres of migrant population. During the year ended 30 June 1980, a total of 168,205 calls was received by TIS. The aggregate number of calls received since the inception of the Service in 1973 is 719,325.

A National Accreditation Authority for Translators and Interpreters (NAATI) was established in 1977 to develop uniform standards of competence for interpreters and translators as a means to upgrade the standing of the profession and the delivery of language services in Australia. State/Territory panels for Translators and Interpreters are being established in all States and Territories to administer tests to persons seeking accreditation as translators and interpreters at the five levels of competence established by NAATI. Panels have been established in Western Australia and Tasmania.

In keeping with the recommendations of the Galbally Report, Settlement Centres are being established in migrant hostels, and progressively, over a three-year period, in the community where there are high concentrations of migrants. These centres will provide on-arrival English instruction and orientation courses and activities concerning various aspects of life in Australia such as employment, housing, education and health and welfare services. They will also provide counselling concerning immediate settlement needs. The new programs will incorporate previously existing programs, including those developed for refugees. These initial, on-arrival programs are oversighted by new consultative mechanisms, including Migrant Settlement Councils in each State and Territory.

Twenty-two migrant resource centres will be established over a period of three years. These resource centres will provide support for all agencies (both government and voluntary) which assist migrants, and also provide a focus for community participation and development of local resources to meet migrant needs.

The Department also prepares information on the ethnic background of migrants, which is used by various organisations and individuals, as a community education service to develop better understanding and appreciation of ethnic communities.

The settlement of refugees particularly from Indo-China has become an important element in the Commonwealth Government's overall migrant settlement program. Most of these refugees are accommodated initially at Commonwealth Government migrant centres where they are able to participate in an initial settlement program designed to facilitate their settlement in the community. In addition, under the Community Refugees Settlement Scheme, numbers of refugees are moved directly from the refugee camps overseas into the Australian community where they are in the care of families, groups and organisations which have undertaken to provide a range of support and assistance.

VETERANS' AFFAIRS

The Repatriation Commission, established under the *Repatriation Act* 1920, consists of three full-time members. It is responsible for the administration of the Repatriation Act and associated legislation, all matters of policy, and the general administration and overall supervision of the provision of benefits under the legislation. The Chairman of the Commission is also the Secretary of the Department of Veterans' Affairs (formerly the Department of Repatriation), which provides the administrative machinery through which the Commission operates. The central office is in Canberra and there is a branch office, under the control of a Deputy Commissioner, in each State.

The principal functions of the Department are: the payment of disability and dependants' pensions (previously called war pensions) and service pensions and allowances to eligible veterans and their dependants; the provision of medical treatment for veterans for injuries and illnesses caused or aggravated by their service; the provision of medical treatment in certain circumstances for veterans who are suffering from injuries and illnesses not caused or aggravated by service; the provision of medical treatment for widows and dependants of deceased veterans whose deaths are service-related; and a wide range of other benefits for eligible persons. Since 5 October 1976, the *Defence Service Homes Act* 1918 has been administered by the Defence Service Homes Corporation (previously the Australian Housing Corporation) within the departmental framework. At the same time, the Department was given responsibility for the Office of Australian War Graves.

Repatriation benefits are provided in respect of service not only in the 1914-18 and 1939-45 Wars but also in the South African War 1899-1902, in the Korea and Malaya operations, in prescribed areas with the British Commonwealth Far East Strategic Reserve and the Special Overseas Forces and, in certain circumstances, in the Regular Defence Forces.

For information on war service land settlement *see* Year Book No. 61 (Chapter 13, Agricultural Industries) and for statistics relating to defence service homes *see* Chapter 19, Housing and Construction, of this Year Book.

For detailed information about repatriation pensions, allowances, benefits and services, reference should be made to the annual reports of the Repatriation Commission.

REPATRIATION: TOTAL EXPENDITURE^(a) (\$'000)

Class	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Pensions, allowances and other benefits	477,608	568,068	662,876	799,264	860,229	966,072
Medical treatment	162,340	201,488	223,058	251,589	268,539	310,327
Administration	32,143	37,130	39,556	41,999	44,441	49,539
Works, rent and maintenance	14,792	19,332	14,020	17,477	21,301	27,881
Total expenditure	686,883	826,018	939,510	1,110,329	1,194,511	1,353,819

(a) Includes expenditure by Departments other than Veterans' Affairs as follows: 1974-75, \$14,088,376; 1975-76, \$18,846,000; 1976-77, \$13,710,296; 1977-78, \$15,718,166; 1978-79, \$18,819,531; 1979-80, \$25,072,835.

Disability and dependants' pensions

The first provision for the payment of disability pensions to veterans and pensions to their dependants was made by the Commonwealth Parliament in the *War Pensions Act* 1914. This Act was repealed in 1920 by the *Australian Soldiers' Repatriation Act* 1920 (amended from 31 December 1950 to the Repatriation Act). Amendments to the Act in 1943 considerably widened the eligibility provisions, to the benefit mainly of members of the Citizen Military Forces who had not served outside Australia during the 1939-45 War.

Main pension rates vary twice each year; current rates are available from Department of Veterans' Affairs Branch Offices.

Summary of disability and dependants' pensions

The following tables provide a summary of disability and dependants' pensions for the 1914-18 War, the 1939-45 War (including pensions payable under the *Interim Forces Benefits Act* 1947), the Korea and Malaya operations and the Far East Strategic Reserve, and Special Overseas Service and the Regular Forces. Statistics relating to miscellaneous disability and dependants' pensions are included collectively in each table, with further details being provided later in this section.

DISABILITY AND DEPENDANTS' PENSIONS: 1979-80

		1914-18 War	1939-45 War(a)	Korea, Malaya and F.E.S.R.	Special Overseas Service	Peace time forces	Miscel- laneous	Total
New claims granted	No.	64	3,732	197	916	1,220	12	6,141
Restorations	"	19	2,449	189	151	80	2	2,890
Claims disallowed(b)	"	83	1,481	59	258	605	-	2,486
Pensions cancelled (gross)	"	50	9,031	724	553	320	5	10,683
Deaths of pensioners	"	3,378	7,647	75	27	17	7	11,151
Pensions in force at 30 June 1980(c)	"	37,910	361,591	10,236	19,991	4,561	478	434,767
Annual pension liability at 30 June 1980	\$'000	77,735	361,839	5,604	5,112	1,278	694	452,262
Amount paid in pensions during the year 1979-80	\$'000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	432,001

(a) Includes Interim Forces. (b) Number of veterans who had their claims for all their disabilities disallowed. (c) At 30 June 1980 includes 7,113 student children over 16 years of age. (d) This figure excludes an annual liability of \$3,068,000 payable to veterans and dependants overseas.

DISABILITY AND DEPENDANTS' PENSIONS(a)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
New claims granted	11,302	10,417	9,856	8,039	7,257	6,141
Restorations	2,984	3,532	2,607	2,962	3,577	2,890
<i>Total additions</i>	<i>14,286</i>	<i>13,949</i>	<i>12,463</i>	<i>11,001</i>	<i>10,834</i>	<i>9,031</i>
Pensions cancelled (gross)	19,131	17,111	14,449	14,662	13,007	10,683
Deaths of pensioners	12,600	12,323	11,637	11,390	11,500	11,151
<i>Total reductions</i>	<i>31,731</i>	<i>29,434</i>	<i>26,086</i>	<i>26,052</i>	<i>24,507</i>	<i>21,834</i>

(a) Including miscellaneous pensions.

Classes of disability and dependants' pensions

The following tables provide an analysis of the total number of new claims granted, pensions in force, and class of pension for 1979-80.

DISABILITY AND DEPENDANTS' PENSIONS: NEW CLAIMS GRANTED, 1979-80

Class	1914-18 War	1939-45 War(a)	Korea, Malaya and F.E.S.R.	Special Overseas Service	Peace time forces	Miscel- laneous	Total
Veterans	15	1,387	46	150	447	7	2,052
Wives and widows of veterans	40	1,786	73	222	333	4	2,457
Children	8	528	78	540	440	1	1,595
Other dependants	1	31	1	4	-	-	37
Total	64	3,732	197	916	1,220	12	6,141

(a) Includes Interim Forces.

DISABILITY AND DEPENDANTS' PENSIONS IN FORCE: 30 JUNE 1980

<i>Class</i>	<i>1914-18 War</i>	<i>1939-45 War(a)</i>	<i>Korea, Malaya and F.E.S.R.</i>	<i>Special Overseas Service</i>	<i>Peace time forces</i>	<i>Miscel- laneous</i>	<i>Total (b)</i>
Veterans	7,218	158,964	3,940	6,401	1,780	168	178,471
Wives	14,636	148,640	3,204	4,866	1,163	171	172,680
Children (b)	22	18,496	2,688	8,313	1,512	13	31,044
War widows	15,704	32,012	260	145	68	118	48,307
Children of deceased veterans	4	679	61	182	35	2	963
Orphans	4	27	1	1	3	1	37
Other dependants	322	2,773	82	83	—	5	3,265
Total	37,910	361,591	10,236	19,991	4,561	478	434,767

(a) Includes Interim Forces. (b) Includes 7,113 student children over 16 years of age.

DISABILITY PENSIONS FOR INCAPACITATED VETERANS IN FORCE: BY CLASS OF PENSION
30 JUNE 1980

<i>Class</i>	<i>1914-18 War</i>	<i>1939-45 War</i>	<i>Korea, Malaya and F.E.S.R.</i>	<i>Special Overseas Service</i>	<i>Peace time forces</i>	<i>Miscel- laneous</i>	<i>Total</i>
Special Rate (T & P I) or equivalent	1,859	12,772	166	52	14	20	14,883
Intermediate Rate	82	1,874	23	14	1	2	1,996
General Rate—from 10 per cent to 100 per cent assessed disability	5,277	144,318	3,751	6,335	1,765	146	161,592
Total	7,218	158,964	3,940	6,401	1,780	168	178,471

Number of disability and dependants' pensions and annual liability, States, etc.

The following table shows the number of pensions in force and annual liability at 30 June 1980, according to place of payment.

DISABILITY AND DEPENDANTS' PENSIONS: NUMBER OF PENSIONS AND ANNUAL EXPENDITURE

<i>Place of payment</i>	<i>Number of disability and dependants' pensions in force at 30 June 1980(a)</i>				<i>Annual expenditure to 30 June 1980(b)</i>
	<i>Incapacitated veterans</i>	<i>Dependants of incapacitated veterans</i>	<i>Dependants of deceased veterans</i>	<i>Total</i>	<i>(\$'000)</i>
New South Wales(c)	64,688	72,023	19,504	156,215	163,756
Victoria	43,838	51,287	14,355	109,480	109,825
Queensland	30,243	35,075	7,622	72,940	71,101
South Australia(d)	16,605	18,936	4,477	40,018	35,684
Western Australia	14,885	17,273	3,699	35,857	29,097
Tasmania	7,385	8,476	1,835	17,696	19,425
Overseas	827	1,195	539	2,561	3,113
Total	178,471	204,265	52,031	434,767	432,001

(a) Includes Interim Forces 1939-45 War. Territory. (d) Includes Northern Territory.

(b) Includes domestic allowance payable to widows.

(c) Includes Australian Capital

Summary of disability and dependants' pensions, 1974-75 to 1979-80

The following table shows the number of pensions granted, claims rejected, pensions in force and the annual liability for pensions in each of the years ended 30 June 1975 to 1980.

DISABILITY AND DEPENDANTS' PENSIONS

Year	Pensions granted	Claims disallowed (b)	Number of disability and dependants' pensions in force at 30 June(a)			Annual expenditure to 30 June 1980(c) (\$'000)
			Incapacitated veterans	Dependants of incapacitated veterans	Dependants of deceased veterans	
1974-75	11,302	3,187	202,047	255,537	56,783	514,367
1975-76	10,417	3,720	197,463	245,682	55,716	498,861
1976-77	9,856	3,951	193,123	237,237	54,804	485,164
1977-78	8,039	2,736	187,427	220,968	54,291	462,686
1978-79	7,257	2,595	182,988	212,177	53,136	448,301
1979-80	6,141	2,486	178,471	204,265	52,031	434,767

(a) Includes Interim Forces 1939-45 War. (b) The number of veterans who had the claims for all their disabilities disallowed. (c) Includes domestic allowance payable to widows.

The following table shows, for the years 1974-75 to 1979-80, the amounts paid in pensions and the place of payment.

DISABILITY AND DEPENDANTS' PENSIONS: AMOUNT PAID(a)

(\$'000)

Place of payment	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
New South Wales(b)	115,502	128,335	136,198	156,692	155,886	163,756
Victoria	83,673	89,249	97,934	108,827	106,374	109,825
Queensland	50,685	54,622	61,161	68,629	68,275	71,101
South Australia(c)	26,525	27,908	30,974	34,870	34,267	35,684
Western Australia	21,812	23,077	25,541	28,728	28,183	29,097
Tasmania	13,698	14,827	16,637	18,676	18,696	19,425
Overseas	2,162	2,068	2,161	2,613	3,648	3,113
Total	314,058	340,086	370,606	419,034	415,329	432,001

(a) Includes domestic allowances paid to widows. (b) Includes Australian Capital Territory. (c) Includes Northern Territory.

Miscellaneous disability and dependants' pensions

The Commission is also responsible for the payment of pensions and allowances to beneficiaries under the *Seamen's War Pensions and Allowances Act 1940*, the *Papua New Guinea (Members of the Forces Benefits) Act 1957* and Cabinet decisions granting eligibility to persons who were attached to the armed forces during war-time.

The following table shows the number and class of pensions and the annual liability at 30 June 1980, and the table thereafter shows the amounts paid during the years 1974-75 to 1979-80 and the place of payment.

MISCELLANEOUS DISABILITY AND DEPENDANTS' PENSIONS: NUMBER OF PENSIONS AND ANNUAL LIABILITY, 30 JUNE 1980

Class	Number of pensions in force at 30 June 1980			Total	Annual liability to 30 June 1980(b) (\$'000)
	Veterans(a)	Dependants of veterans	Dependants of deceased veterans		
Act of grace	97	107	43	247	319
Seamen's war pension	69	77	43	189	219
New Guinea civilians	2	-	40	42	156
Total	168	184	126	478	694

(a) 'Veterans', in this context, are persons in respect of whose war-time experience a pension is paid. (b) Includes domestic allowances payable to widows.

(\$'000)

(a) Includes domestic allowance payable to widows. (b) Includes Australian Capital Territory. (c) Includes Northern Territory.

[illegible]

SERVICE PENSIONS

	1974-75	1975-76(a)	1976-77	1977-78	1978-79	1979-80
New claims granted	23,173	29,989	32,404	37,491	36,607	40,735
Restorations	414	510	378	353	331	374
<i>Total additions</i>	<i>23,587</i>	<i>30,499</i>	<i>32,782</i>	<i>37,844</i>	<i>36,938</i>	<i>41,109</i>
Cancellations (gross)	3,940	3,443	3,774	4,345	5,639	5,102
Deaths	6,447	7,131	6,875	7,092	7,827	7,952
<i>Total reductions</i>	<i>10,387</i>	<i>10,574</i>	<i>10,649</i>	<i>11,437</i>	<i>13,466</i>	<i>13,054</i>

(a) The increased number of new claims granted in 1975-76 was partly due to the abolition of the means test for persons 70 years and over and to an ageing population of ex-service personnel.

Class of service pensions

The following tables give an analysis of the total number of new claims granted and pensions in force for 1979-80.

SERVICE PENSIONS: NEW CLAIMS GRANTED, 30 JUNE 1980

Class	1914-18 War	1939-45 War	Korea- Malaya operations	Special Overseas Service	Act of Grace	Allied Forces	British Common- wealth	Total
Veterans	67	19,411	171	37	7	442	2,713	22,848
Wives and widows of veterans	77	15,229	106	31	6	342	2,096	17,887
Total	144	34,640	277	68	13	784	4,809	40,735

SERVICE PENSIONS: NUMBER IN FORCE, 30 JUNE 1980

State	1914-18 War	1939-45 War	Korea- Malaya operations	Special Overseas Service	Act of Grace	Allied Forces	British Common- wealth	Total
New South Wales(a)	4,293	71,096	554	59	74	156	2,697	78,929
Victoria	4,015	52,035	156	17	57	221	2,751	59,252
Queensland	2,292	40,876	260	51	28	137	1,931	45,575
South Australia(b)	1,502	20,923	75	20	18	139	2,095	24,772
Western Australia	1,267	18,426	70	6	13	91	1,258	21,131
Tasmania	505	8,993	43	2	7	41	296	9,887
Overseas	11	177	5	-	-	4	221	418
Total	13,885	212,526	1,163	155	197	789	11,249	239,964

(a) Includes Australian Capital Territory.

(b) Includes Northern Territory.

Number, by class, of service pensions and amount paid

The following tables show the number of each class of service pension in force, the annual expenditure and the amounts paid for the years 1974-75 to 1979-80.

SERVICE PENSIONS: NUMBER OF EACH CLASS OF PENSION AND ANNUAL EXPENDITURE

Number of service pensions at 30 June payable to—								
Year	Veterans who are—			Dependants(a) of veterans where the veteran is—			Total	Annual pension expenditure at 30 June (\$'000)
	Aged veterans	Permanently unemployable	Suffering from pulmonary tuberculosis	An aged veteran	Permanently unemployable	Suffering from pulmonary tuberculosis		
1974-75	62,523	19,298	1,425	22,153	15,438	889	121,726	155,207
1975-76	72,432	20,224	1,424	30,773	15,973	849	141,675	218,926
1976-77	82,567	21,652	1,466	40,104	17,045	881	163,715	283,280
1977-78	95,369	22,253	1,333	51,270	17,532	760	188,517	372,100
1978-79	105,575	24,928	1,289	60,405	19,490	735	212,422	436,196
1979-80	117,460	27,712	1,198	71,267	21,631	696	239,964	525,178

(a) Includes dependants of deceased service pensioners.

SERVICE PENSIONS: AMOUNTS PAID
(**\$'000**)

<i>Place of payment</i>	<i>1974-75</i>	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>
New South Wales(a)	49,985	73,181	90,577	121,972	143,993	175,006
Victoria	40,180	55,141	72,127	93,631	108,343	128,768
Queensland	28,033	39,181	52,419	68,367	81,852	99,468
South Australia(b)	15,133	21,406	28,668	34,234	43,953	53,439
Western Australia	15,149	20,560	26,933	33,785	38,896	45,911
Tasmania	6,669	9,314	12,327	15,806	18,486	21,831
Overseas	58	143	230	1,306	673	755
Total	155,207	218,926	283,281	372,101	436,196	525,178

(a) Includes Australian Capital Territory.

(b) Includes Northern Territory.

Medical treatment for veterans and dependants of veterans

Medical treatment is provided for all disabilities which have been accepted as service-related, and for pulmonary tuberculosis and cancer not related to service. In addition, and subject to certain conditions, treatment is provided for most non-service-related disabilities for: incapacitated veterans receiving disability pensions at or above the maximum (100 per cent) General Rate; veterans or nurses who served in the 1914-18 War; veterans of the Boer War; ex-prisoners-of-war; war widows and certain other dependants of deceased male veterans whose deaths have been accepted as service-related, and of deceased T & P I pensioners; and certain service pensioners.

Treatment is provided at six Repatriation General Hospitals (one in each State) and five auxiliary hospitals and an ANZAC hostel in Victoria. The total number of available beds for patients in wards or parts of wards open for use in all these institutions at 30 June 1980 was 3,052 and expenditure during 1979-80 amounted to \$136,262,966. In addition, expenditure of \$174,064,219 was incurred during 1979-80 on medical services outside these institutions.

Community patients

Where spare bed capacity exists in the Repatriation hospitals, patients may be admitted from the general community (mainly veterans with conditions that are not service-related, hospital staff and the local community).

Repatriation hospitals and institutions

Details of full-time staff in Repatriation general hospitals and other Repatriation institutions are given in the following table.

REPATRIATION HOSPITALS AND INSTITUTIONS: FULL-TIME OPERATIVE STAFF 30 JUNE 1980

<i>Type of institution</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust.</i>
General hospitals—							
Medical staff	216	109	77	50	26	12	490
Nursing staff	917	466	356	259	262	74	2,334
Other staff	1,250	871	557	412	512	118	3,720
<i>Total, general hospitals</i>	<i>2,383</i>	<i>1,446</i>	<i>990</i>	<i>721</i>	<i>800</i>	<i>204</i>	<i>6,544</i>
Other in-patient institutions	296	137	181	—	46	—	660
Out-patient clinics	—	31	—	—	—	—	31
Limb and appliance centres	77	79	31	24	19	11	241
Grand total	2,756	1,693	1,202	745	865	215	7,476

The following table gives details of in-patients treated at Repatriation general hospitals and other Repatriation institutions in each State. The figures shown refer to treatment episodes, e.g. a person who is admitted to hospital twice during a year is counted twice.

REPATRIATION GENERAL HOSPITALS AND INSTITUTIONS: IN-PATIENTS TREATED, 1979-80

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust.</i>
REPATRIATION GENERAL HOSPITALS							
In-patients at beginning of year . . .	662	370	340	207	265	68	1,912
Admissions and re-admissions during year	21,270	14,192	10,766	6,188	7,919	1,938	62,273
<i>Total in-patients treated</i>	<i>21,932</i>	<i>14,562</i>	<i>11,106</i>	<i>6,395</i>	<i>8,184</i>	<i>2,006</i>	<i>64,185</i>
Discharges	20,406	13,429	10,397	5,865	7,533	1,850	59,480
Deaths	806	690	362	286	324	90	2,558
In-patients at end of year	720	443	347	244	327	66	2,147
Average daily beds occupied	674	439	340	223	280	75	2,031
OTHER REPATRIATION INSTITUTIONS							
In-patients at beginning of year . . .	167	102	119	—	36	—	424
Admissions and re-admissions during year	1,892	719	964	—	236	—	3,811
<i>Total in-patients treated</i>	<i>2,059</i>	<i>821</i>	<i>1,083</i>	<i>—</i>	<i>272</i>	<i>—</i>	<i>4,235</i>
Discharges	1,787	593	867	—	234	—	3,481
Deaths	90	127	115	—	21	—	353
In-patients at end of year	182	101	101	—	17	—	401
Average daily beds occupied	172	106	113	—	33	—	424

In addition to the repatriation institutions, eligible patients are treated in other country and metropolitan hospitals and nursing homes at repatriation expense. During 1979-80, 34,919 Repatriation in-patients were accommodated and treated in hospitals and 7,579 in nursing homes.

Repatriation psychiatric patients requiring custodial care are, by agreement with the State Governments, accommodated at the expense of the Department of Veterans' Affairs in separate wings of psychiatric hospitals administered by the State authorities. Excluding 44 on trial leave, there were 477 repatriation patients in these hospitals at 30 June 1980.

Out-patient treatment is provided throughout Australia at repatriation hospitals and clinics and through the Repatriation Local Medical Officer Scheme. During 1979-80, 766,940 out-patients were treated at Repatriation institutions, and visits to or by local medical officers totalled 2,842,760. The number of Repatriation local medical officers in Australia at 30 June 1980 was 9,320.

Artificial limb and appliance services

A wide range of artificial limbs and other surgical aids is supplied by the artificial limb and appliance centre in each State capital and Darwin. In addition, the Department maintains the Central Development Unit located in Melbourne, and engages in research and development in the prosthetic and orthotic field.

Since 1973, artificial limbs have been provided free of charge to all members of the community who need them, either through the Department's artificial limb and appliance centres or on order through commercial limb-makers. The number of limbs supplied through the Department has increased significantly as the community has taken advantage of the free-limbs scheme.

Details of production at all centres during 1979-80 are as follows: arms, 310; legs, 3,100; surgical and adapted footwear, 6,021; other surgical appliances, 1,104; and repairs, 27,216.

General Repatriation benefits and miscellaneous

Other activities of Department of Veterans' Affairs

In addition to the payment of pensions and the provision of medical treatment, the Department also provides various benefits and allowances designed to meet the needs of special classes of veterans and their dependants. These include the Soldiers' Children Education Scheme (*see* page 209).

In addition, gift cars and an annual allowance for their upkeep are provided for veterans who, as a result of service, have suffered the amputation of both legs above the knees or amputation of one leg above the knee plus any two other amputations (above the ankle or at or above the wrist) or complete

paraplegia resulting in the total loss of the use of both legs. A grant of up to \$300 may be made towards the funeral expenses of eligible veterans and certain of their dependants. As from 13 November 1980, Temporary Incapacity Allowance may be paid to a veteran whose stay in hospital together with post-hospital convalescence or other treatment on a full-time basis exceeds 28 days. Payment of up to \$10 may be made to provide such necessities as meals, sleeping accommodation, etc. for veterans in need of immediate relief. Also, certain concessions in telephone rental charges are provided for some classes of veterans and their dependants, including blinded veterans, war and defence widows and certain service and Special Rate disability pensioners. Veterans who have been blinded as a result of service may be issued with talking book machines. The Australian Red Cross Society supplies 'book' records or cassettes for these machines free of charge, thus enabling the blind to enjoy a wide range of literature.

Expenditure in 1979-80 on general Repatriation benefits for all wars was \$8,893,000 comprising Soldiers' Children Education Scheme, \$2,567,000; recreation transport allowance, \$828,000; and other benefits, \$5,498,000.

As at 30 June 1980, trust and other funds administered by the Department of Veterans' Affairs held \$24,575,000 in securities (face value) and \$1,499,000 in cash, a total of \$26,074,000.

Reciprocal arrangements with the United Kingdom, New Zealand and other countries provide for the payment of pensions, etc. to eligible Australian veterans living overseas and to eligible veterans from overseas who are living in Australia.

Soldiers' Children Education Scheme

The Soldiers' Children Education Scheme was established in 1921 and operates with the assistance of the honorary Education Boards in each State. These Boards consist of representatives of government and non-government education authorities and of ex-service and other organisations which have a general interest in the welfare of the children of veterans. The objects of the Scheme are to assist and encourage eligible children in acquiring a standard of education compatible with their aptitude and ability, and to prepare them to enter an agricultural, commercial, professional, or industrial calling of their own choice. Eligible children are children of veterans whose deaths have been accepted as service-related; or of veterans who died from causes not service-related but who were receiving at the date of death a disability pension at a Special Rate for blindness, total and permanent incapacity, or amputation of two or more limbs; or of veterans who, as a result of service, are blinded totally and permanently incapacitated. From the commencement of primary education until the child reaches twelve years of age, school requisites and fares are provided. From the commencement of secondary education or from the age of twelve years, whichever is earlier, an education allowance is payable while the child is undertaking primary or secondary education. Assistance beyond secondary education is provided where an approved beneficiary continues with a course of specialised education or training necessary for a career. At this stage of training, in addition to the education allowance, fees are paid and text books, essential equipment and other minor benefits are provided.

All education allowances are subject to an income test, i.e. the amount of education allowance payable depends on the amount of income a child receives over the allowed limit. Weekly rates of allowances vary from time to time; current rates are available from the Department of Veterans' Affairs' Branch Offices.

The following tables show the costs of education under the scheme for the year ended 30 June 1980, and the number of children in receipt of benefit at 30 June 1980.

SOLDIERS' CHILDREN EDUCATION SCHEME: EXPENDITURE, 1979-80
(\$'000)

	<i>N.S.W.(a)</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.(b)</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust.</i>
Cost of education of beneficiaries—							
Under 12 years of age	1	2	3	1	—	1	8
12 years of age and over	1,020	678	413	172	171	94	2,548
Total expenditure	1,021	680	416	173	171	95	(c) 2,556

(a) Includes Australian Capital Territory.

(b) Includes Northern Territory.

(c) Excludes overseas expenditure of \$12,000.

SOLDIERS' CHILDREN EDUCATION SCHEME: NUMBER RECEIVING BENEFITS(a) AT 30 JUNE 1980

<i>Type of training</i>	<i>N.S.W.(b)</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.(c)</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Over-seas</i>	<i>Total</i>
At school—								
Aged under 14 years (d)	139	94	86	39	25	28	8	419
Aged 14 and under 16 years	252	146	114	50	26	38	5	631
Aged 16 and under 18 years	203	133	88	42	22	30	4	522
<i>Total at school</i>	<i>594</i>	<i>373</i>	<i>288</i>	<i>131</i>	<i>73</i>	<i>96</i>	<i>17</i>	<i>1,572</i>
Professional	306	198	105	43	58	22	4	736
Agricultural	—	—	—	—	—	—	—	—
Industrial	—	—	—	—	—	—	—	—
<i>Grand total</i>	<i>900</i>	<i>571</i>	<i>393</i>	<i>174</i>	<i>131</i>	<i>118</i>	<i>21</i>	<i>2,308</i>

(a) Refers only to children in receipt of an education allowance. (b) Includes Australian Capital Territory. (c) Includes Northern Territory. (d) From 12 years of age or the commencement of secondary education, whichever is the earlier.

Re-establishment benefits for former regular and former national servicemen

Subject to prescribed conditions, vocational training and business loans are provided for former regular and former national servicemen with a view to ensuring that they are not at a disadvantage when they return to civil life. Loans from \$5,000 (business and professional) and \$10,000 (agricultural) may be granted to veterans in these categories who satisfy prescribed requirements in respect of suitability of their proposed business propositions and adequacy of security. Agricultural loans are administered by the Department of Primary Industry. Vocational training is provided for by the Department of Employment and Youth Affairs.

Survey of Ex-service personnel, widows and children

In November 1971, a survey based on the quarterly population survey (see Chapter 8, Manpower) was conducted at the request of the then Department of Repatriation and the Services Canteen Trust Fund. Details of the survey were published in Year Book No. 59, page 112 and in the publication *Ex-service Personnel, Widows and Children (November 1971)* (4403.0). A similar survey was conducted in October 1979, and included questions relevant to the Defence Service Homes function. Results were published in April 1980.

The Services Canteens Trust Fund

The Services Canteens Trust Fund was established under the *Services Trust Funds Act* 1947. Its funds are derived from the assets and profits of wartime services canteens, mess and regimental funds of disbanded units, and several other sources.

The total amount transferred to the Fund to 31 December 1979 was \$11,060,693. The Act prescribed that of this, \$5 million and such further amounts as the trustees of the Fund might from time to time decide should be devoted to the provision of education facilities for the children of eligible veterans, and that the balance of the Fund should be used to provide relief for veterans and their dependants in necessitous circumstances.

The Fund is administered by seven honorary trustees appointed by the Governor-General. The trustees have power to determine the persons or groups of persons to benefit from the Fund and the extent of the benefits to be granted within the provisions of the Act, and to appoint regional committees to assist with the administration. Members of regional committees are all persons who served in the 1939–45 War or are widows of men who served during the war. The trustees and members of regional committees serve in an honorary capacity.

Assistance from the Fund

Persons eligible for assistance from the Fund are those who, between 3 September 1939 and 30 June 1947, served in the Australian Naval, Military or Air Forces, including members of the canteens staff of any ship of the Royal Australian Navy, persons duly accredited to any part of the Defence Forces who served in an official capacity on full-time paid duty, and their dependants.

The trustees have introduced various schemes for providing financial assistance to needy eligible veterans and their dependants. The total cash assistance granted to individuals under all schemes from the inception of the Fund to 31 December 1979 was \$15,816,961 (\$494,479 during 1979) distributed as follows:

- welfare relief, \$5,195,386 (\$262,983 during 1979)
- children's education, \$10,236,346 (\$230,400 during 1979)
- other schemes, \$385,229 (\$1,096 during 1979)

For detailed information on the operation of the Fund, reference should be made to the annual reports of the Services Canteens Trust Fund.

Further information—ABS publications

Further information on subjects dealt with in this chapter is included in the annual *Australian National Accounts, National Income and Expenditure* (5204.0); *Commonwealth Government Finance, Australia* (5502.0); *State and Local Government Finance, Australia* (5504.0); and *Social Indicators, Australia* (4101.0). Current and summarised information on Commonwealth Government social services is contained in the *Monthly Summary of Statistics, Australia* (1304.0).

CHAPTER 10

HEALTH

This chapter is concerned with activities of the Commonwealth Department of Health including quarantine, national health benefits programs and Federal grants for health purposes; activities of the State Health Departments; details of hansenide hospitals and mental health institutions and statistics of notifiable diseases, causes of death, and cremations.

Further information about the administration of public health services is contained in the annual reports of the Director-General of Health; the annual reports of the State health authorities; and in the Year Books and annual publications published by the State offices of the Australian Bureau of Statistics.

NATIONAL HEALTH SERVICES

Prior to an amendment to the Constitution in 1946, the only health function of the Commonwealth Department of Health was in relation to quarantine. Consequent upon this amendment, the Commonwealth Government was given powers to make laws about pharmaceutical, hospital and sickness benefits and medical and dental services. The Commonwealth Government also has used its powers under section 96 of the Constitution to make grants to the States for health purposes. In addition, the Commonwealth Government gives financial assistance to certain organisations concerned with public health matters. A number of Commonwealth Government health organisations have been established; detailed information on the functions and operations of these organisations is given in this and previous Year Books and in the annual reports of the Commonwealth Director-General of Health.

Quarantine

The *Quarantine Act* 1908 is administered by the Commonwealth Department of Health and provides for the taking of measures to prevent the introduction or spread of diseases affecting humans, animals and plants.

Human quarantine

The masters of all ships and aircraft arriving in Australia from overseas are required to notify medical officers acting on behalf of the Commonwealth Department of Health of all cases of illness on board their vessel at the time of arrival. Passengers or crew members who are believed to be suffering from a quarantine illness may be examined by Quarantine Medical Officers located at all ports of entry.

The main concern of examining officers is the detection of quarantine diseases including cholera, yellow fever, plague, typhus fever and viral haemorrhagic fevers. These diseases are not endemic to Australia and it is of great importance to prevent their entry. Sufferers or suspected sufferers may be isolated to prevent the possible spread of the disease.

A valid International Certificate of Vaccination is required of travellers to Australia as follows:

Yellow fever. From travellers over one year of age who have been in yellow fever endemic zones within the past 6 days.

All passengers, whether they arrive by sea or air, are required to give their intended place of residence in Australia so that they may be traced if a case of disease occurs among the passengers on the ship or aircraft by which they travelled to Australia.

Isolation. Under the Quarantine Act, airline and shipping operators are responsible for the expenses of isolation of all travellers who disembark from their aircraft or ship and who fail to meet Australia's vaccination requirements.

Animal quarantine

The objectives of animal quarantine being developed within the Department in consultation with Australia's agricultural and livestock groups, seek to combine the need to provide improved genetic material for Australia's livestock industries, with the maximum practical protection against the entry of exotic livestock diseases.

Importation of animals is restricted to certain species from designated overseas countries whose diseases status and pre-entry quarantine facilities meet Australia's stringent requirement. With few exceptions all imported animals are required to serve a period in quarantine on arrival.

Animal quarantine stations are located at most capital cities. A high security animal quarantine station currently under construction and nearing completion on the Cocos (Keeling) Islands will shortly provide the means whereby the safe importation of a wider range of animals becomes possible. Applications to import animals through the Cocos station are now being sought.

Measures to prevent the entry of exotic diseases are also applied through the recently enhanced Northern Surveillance program and the rigorous screening of applications to import biological materials and animal products.

Plant quarantine

Arising from both its dependence upon exotic plant species for agriculture, horticulture and forestry and its island continental isolation, Australia is free of numerous plant pests and diseases that occur elsewhere in the world. Since 1 July 1909, the importation into Australia of plant materials has been subject to an increasingly stringent quarantine: some materials are admitted only under certain conditions while others are prohibited altogether. The quarantines are designed to exclude from the country unwanted pests and plant diseases. It is not possible to predict how a new plant pest or disease will perform when introduced to a new environment free of its natural enemies. Hence the general objective is to keep any pest or disease out of the country which could cause serious economic losses to Australia's agriculture, horticulture or forests.

For further details *see* Year Book No. 61, page 449.

Personal health services and subsidies

National Health Benefits

The Australian health insurance arrangements, while undergoing changes on 1 September 1979, have continued to guarantee protection to all Australian residents against high cost medical services, and have continued to provide free shared ward hospital accommodation in recognised hospitals. Special cover is also provided for pensioners with Pensioner Health Benefits (PHB) cards and disadvantaged persons, whilst individuals are free to choose additional coverage from private insurers.

Medical

Patients are responsible for medical costs up to \$20 per Schedule service, and the Commonwealth meets the costs above \$20 up to the level of the Schedule fee.

Pensioners with PHB cards are eligible to receive a benefit of 85 per cent of the Schedule fee for each medical service, with a maximum payment by the patient of \$5 for any one service where the Schedule fee is charged.

People classified by their doctors as disadvantaged are eligible to have their medical accounts bulk-billed (at 75 per cent of the Schedule fee).

Hospital

Free shared ward accommodation in recognised hospitals with treatment by doctors engaged by the hospital is available under Hospital Cost Sharing Agreements to all residents of Australia who do not have hospital insurance.

Private insurance

All private health funds are required to maintain a basic medical benefits table to provide cover for 75 per cent of the Schedule medical fee, with a maximum payment by the patient of \$10 for each service where the Schedule fee is charged. Funds also pay Commonwealth medical benefits on behalf of the Commonwealth Government to both insured (included in basic table) and uninsured persons for medical costs above \$20 up to the level of the Schedule fee.

Funds are also required to offer a basic hospital table which provides benefits of (currently) \$50 per day, to cover the private patient charge for shared ward accommodation with doctor of choice in a recognised hospital, or to partly cover the charge (\$75) for a private room in a recognised hospital or for accommodation in a private hospital. This basic table also covers charges (\$25 per day) for professional services rendered to private patients in recognised hospitals by doctors employed by the hospitals. Outpatient benefits (where a charge is raised by the hospital) and nursing home fund benefits are also included in the basic table.

The scope of other than basic medical and hospital tables offered by the registered health insurance organisations, is wide ranging and provides benefits to cover the majority of all health care needs.

Financing

The Commonwealth Government pays medical benefits for items above \$20 Schedule fee from consolidated revenue. Each person is responsible for the first \$20 of any medical service, unless privately insured.

Hospital cost-sharing arrangements between the States and the Commonwealth continue as previously. Most of the current agreements were due to be re-negotiated in mid-1980 but will be extended during the Commission of Inquiry into the Efficiency and Administration of Hospitals. This national inquiry has been established to identify the factors behind existing rates of growth in public hospital expenditures and ways in which those growth rates might be reduced.

The subsidy of \$16 per occupied bed day paid to private hospitals remains.

From 1 August 1980, the Government increased its contribution to the Reinsurance Trust Fund from \$50 million to \$125 million a year.

Administration

The Department of Health continues to be responsible for administering the Commonwealth medical benefit payments to the registered medical benefits organisations, bulk-billing arrangements, hospital payments and subsidies, nursing home benefits for persons without hospital insurance and health program grants.

Nursing home benefits

There are two forms of Commonwealth benefit payable in respect of patients accommodated in premises approved as nursing homes under the National Health Act. These benefits are as follows:

(i) *Basic Nursing Home Benefit*

Basic nursing home benefit is payable in respect of all qualified nursing home patients other than those patients who are eligible to receive benefits from a registered hospital benefits organisation or from some other source such as compensation, third party insurance, etc. The amount of basic benefit payable varies between States so that, when combined with the minimum patient contribution (as explained below) the resultant amount will fully cover the approved fees of 70 per cent of patients in non-government nursing homes in each State. The benefit is reviewed and adjusted annually on this basis, the last such adjustment taking effect on 6 November 1980.

As at 6 November 1980, the maximum amount of basic nursing home benefit payable per day, in each State and Territory was: New South Wales and the Australian Capital Territory \$18.10; Victoria \$26.80; Queensland \$16.85; South Australia and the Northern Territory \$24.30; Western Australia \$16.00; and Tasmania \$18.65.

(ii) *Commonwealth Extensive Care Benefit*

The Commonwealth extensive care benefit is payable at the rate of \$6 a day, in addition to the Commonwealth basic benefit, in respect of patients who need and receive 'extensive care' as defined in the National Health Act. As in the case of the Commonwealth basic benefit, the extensive care benefit is payable in respect only of qualified patients who are not entitled to receive such benefits from a registered hospital benefits organisation, workers' compensation or third party insurance.

Patients who are insured with a registered hospital benefits organisation receive all of their benefit entitlement, whether at the basic benefit or extensive care benefit levels, from that organisation and not from the Commonwealth. In all circumstances the amount of benefit payable by a hospital benefits organisation will be equivalent to the amount otherwise payable by the Commonwealth in respect of uninsured patients in nursing homes.

Generally speaking all nursing home patients are required to make a minimum contribution towards the approved nursing home fee charged (while an exception to this rule is provided for, that exception relates basically to certain circumstances involving handicapped children in nursing homes). The minimum patient contribution is calculated as 87.5 per cent of the single rate pension plus supplementary assistance.

As at 6 November 1980, the minimum patient contribution payable by patients accommodated in nursing homes approved under the National Health Act was \$8.60 a day.

Where the fees charged by a nursing home are in excess of the combined total of nursing home benefits plus the patient contribution, the difference must be met by the patient. Conversely, where the nursing home fee is less than this combined total, the basic benefit (whether private health insurance benefit or government benefit) is reduced by that amount.

Long-term Patients

Amendments to the Health Insurance Act and the National Health Act have been made concerning long-term patients in hospitals. Long-term patients accommodated in hospitals who no longer require hospital treatment are to be reclassified as nursing home type patients and required to contribute towards their care and accommodation in the same way as patients in nursing homes. A 'nursing home type patient' is an inpatient whose hospitalisation exceeds 60 days, unless a certificate has been issued by a medical practitioner to certify that a patient is in need of further acute care.

Deficit financing arrangements

As an alternative to the provision of patient benefits under the National Health Act (as outlined above), the *Nursing Homes Assistance Act* 1974 provides for an arrangement whereby the Commonwealth Government may meet the net operating deficits of religious and charitable nursing homes.

All organisations wishing to participate in the deficit financing arrangements must enter into a formal agreement with the Commonwealth Government for that purpose.

Commonwealth nursing home benefits as provided under the National Health Act are not payable to a nursing home during any period in respect of which that nursing home participates under the deficit financing arrangements and uninsured patients are charged only a prescribed fee equivalent to the minimum patient contribution. However, the usual arrangements, as for nursing homes approved under the National Health Act, apply to insured patients and registered hospital benefits organisations pay the full normal benefit rate.

Domiciliary Nursing Care Benefit

The rate of the domiciliary nursing care benefit which is payable to persons who are willing and able to care in their own homes for relatives who would otherwise qualify for admission to a nursing home, was increased from \$28 a fortnight (\$2 daily) to \$42 a fortnight (\$3 daily) with effect from 4 September 1980. The basic criteria for the payment of the benefit are that the patient must be aged sixteen years or over and be in need of continuing nursing care and receiving regular visits by a registered nurse.

This benefit is not subject to a means test and is payable, under the National Health Act, in addition to any entitlements that persons may have under the Social Services Act or the Repatriation Act for pensions or other supplementary allowances.

Health Program Grants

Health Program Grants, authorised under the *Health Insurance Act*, are payable to eligible organisations to meet the cost, or such proportion of the cost as the Minister may determine, of approved health services, provided outside of hospitals by medical practitioners employed on a salaried or sessional basis. Eligible organisations are required to impose charges, where appropriate, for services involving privately insured patients. Generally, the grant covers the cost of Schedule medical services provided to patients in respect of whom a doctor in private practice would bulk-bill, i.e. Pensioner Health Benefits cardholders and their dependants, and uninsured patients classified by the doctor as disadvantaged.

The total amount paid to approved organisations during 1979–80 was \$3.7 million.

Commonwealth Authorities Expenditure

Pharmaceutical benefits

A person receiving treatment from a medical practitioner or a participating dental practitioner registered in Australia is eligible for benefits on a comprehensive range of drugs and medicines when they are supplied by an approved pharmacist upon presentation of a prescription or by an approved private hospital when that person is receiving treatment at the hospital. Special arrangements exist to cover prescriptions dispensed at locations where the normal conditions of supply do not apply, e.g. in remote areas.

Following the introduction of the Commonwealth/State cost sharing arrangements, patients in recognised hospitals are supplied with drugs and medical preparations in accordance with those agreements.

Patients other than eligible pensioners and their dependants now pay a contribution of \$2.75 for each benefit prescribed. The total cost of prescriptions for eligible pensioners and their dependants is met by the Commonwealth Government.

Under the Pharmaceutical Benefit Scheme the total cost, including patient contributions, for prescription drugs was \$391.1 million in 1978–79 and \$391.0 million in 1979–80. These figures do not include benefits supplied by certain hospitals and miscellaneous services or retrospective adjustments of chemists' remunerations.

Summary of cash benefits to persons

For an analysis by function and economic type of expenditure by all Commonwealth Government authorities see Chapter 22, Public Finance.

Most Commonwealth Government health benefits are financed through the National Welfare Fund and the Health Insurance Commission. The following table shows cash benefits to persons by Commonwealth Authorities for 1978-79.

COMMONWEALTH AUTHORITIES: HEALTH CASH BENEFITS TO PERSONS 1978-79

(\$'000)

	N.S.W. (a)	Vic.	Qld	S.A. (a)	W.A.	Tas.	N.T. (a)	A.C.T. (a)	Total
Hospital and clinical services—									
Hospital benefits reinsurance	12,400	22,956	5,400	8,800	-2,100	-500	-	-	46,956
Medibank—Private hospital daily bed payments	22,137	20,976	13,187	8,741	5,975	1,961	-	-	72,977
Hospital benefits, n.e.c.	91	4	47	2	9	9	-	-	162
Nursing home benefits	105,801	59,081	36,563	31,061	26,390	9,004	-	-	267,900
Tuberculosis campaign allowances	283	181	138	55	68	20	-	-	746
Rehabilitation of ex-servicemen	144	133	45	21	34	21	-	21	418
<i>Total</i>	<i>140,856</i>	<i>103,331</i>	<i>55,380</i>	<i>48,680</i>	<i>30,376</i>	<i>10,515</i>	<i>-</i>	<i>21</i>	<i>389,159</i>
Other health services—									
Medibank—Medical benefits	224,973	128,667	70,202	44,692	36,301	10,334	3,954	9,760	528,883
Isolated patients travel and accommodation assistance	25	26	171	85	54	10	3	-	374
Pharmaceutical benefits for pensioners	63,212	35,753	24,241	13,094	9,917	4,157	74	677	151,126
Pharmaceutical benefits, n.e.c.	46,433	32,425	18,044	9,984	8,370	2,892	329	1,715	120,193
Domiciliary care	2,557	1,965	1,593	796	876	547	-	-	8,333
<i>Total</i>	<i>337,200</i>	<i>198,836</i>	<i>114,251</i>	<i>68,651</i>	<i>55,518</i>	<i>17,940</i>	<i>4,360</i>	<i>12,152</i>	<i>808,909</i>
Total health	478,056	302,167	169,631	117,331	85,894	28,455	4,360	12,173	1,198,068

(a) State totals for New South Wales and South Australia also include most of the unallocatable expenditure on cash benefits to persons resident in the Australian Capital Territory and the Northern Territory respectively.

Tuberculosis

An arrangement between the Commonwealth and the States under which the Commonwealth reimbursed the States for all approved capital expenditure on tuberculosis and for net maintenance expenditure to the extent that it exceeded that for 1947-48 was discontinued from 31 December 1976. The National Tuberculosis Advisory Council, however, has been retained to keep abreast of advances and to advise the Minister for Health and, through him, the State Ministers for Health on the best means of prevention, diagnosis and control of tuberculosis. There are eleven members of the Council, the chairman being the Director-General of the Commonwealth Department of Health.

To reduce the spread of infection the Commonwealth Government pays allowances to persons suffering from infectious tuberculosis so that they may give up work and undergo treatment. Commonwealth Government Expenditure on Tuberculosis Allowances over the last three years has been \$762,000 in 1977-78, \$746,000 in 1978-79 and \$1,207,200 in 1979-1980.

Immunisation campaigns

Continuing immunisation programs against poliomyelitis, measles, rubella, diphtheria, tetanus, and whooping cough are maintained in all States and Territories.

Rubella immunisation is limited to females during their reproductive years; mass campaigns are routinely undertaken only on girls aged between 10 and 14 years. Whooping cough immunisation is currently given only to infants less than 1 year of age.

National health services organisations

The Commonwealth Department of Health Pathology Laboratory Service provides clinical diagnostic and investigational facilities at laboratories situated in Albury, Bendigo, Cairns, Hobart, Kalgoorlie, Launceston, Lismore, Port Pirie, Rockhampton, Tamworth, Toowoomba and Townsville. Their primary role is to assist medical practitioners in the diagnosis of illness and disease and to provide facilities for investigations into public health and aspects of preventive medicine. During 1979-80, these laboratories carried out approximately 4.1 million pathology tests and investigations in respect of 1.0 million patient requests.

The Commonwealth Serum Laboratories Commission (CSL) produces pharmaceutical products for human and veterinary use and is one of Australia's foremost scientific institutes. The Commission's main function is to produce and sell prescribed pharmaceutical products used for therapeutic purposes and to ensure the supply of essential pharmaceutical products in accordance with national health needs. The Commission's functions also include research and development relating to many kinds of human and veterinary diseases covering the fields of bacteriology, biochemistry, immunology and virology. The Commission's laboratories and central administration are located at Parkville, Victoria, with storage and distribution facilities in all States.

For over sixty years, CSL has been Australia's chief supplier of biological medicines, insulins, vaccines, penicillin, human blood fractions, *Bacillus Calmette-Guerin (BCG)* and an increasing range of veterinary biological products needed by Australia's sheep, cattle, pig and poultry industries. The role of CSL has expanded as a result of amendments to the CSL Act from 1 July 1980 that allow CSL to produce, buy, import, supply, sell or export prescribed pharmaceutical products (either of a biological or non-biological nature).

The Commission employs more than 1,000 people, including medical officers, veterinarians, bacteriologists, biochemists, physicists, engineers, accountants, laboratory assistants, skilled tradesmen and experienced marketing staff to promote the sale of its products.

The Australian Radiation Laboratory is concerned with:

- (a) The formulation of policy, development of codes of practice, national surveillance and provision of scientific services relating to the public and occupational health implications of ionising and non-ionising radiation; and
- (b) The maintenance of national radiation measurement standards and quality evaluation and assurance of radioactive materials used for medicine diagnosis and treatment.

The National Acoustic Laboratories undertake scientific investigations into hearing and problems associated with noise as it affects individuals, and advise Commonwealth Government Departments and instrumentalities on hearing conservation and the reduction of noise. A free audiological service is provided for pensioners with medical benefit entitlements and their dependants, persons under 21, war widows, Social Security rehabilitees and Veterans Affairs patients. During 1979-80 the number of appointments provided was 133,948 and the number of hearing aids fitted was 36,876.

The Ultrasonic Institute conducts research and provides advisory services on the use of ultrasonic radiation in the diagnosis and treatment of disease. The Institute is recognised as a world leader in its field.

Commonwealth Government health advisory organisations

The National Health and Medical Research Council advises the Commonwealth Government and State Governments on all matters of public health legislation and administration, on matters concerning the health of the public and on medical research. It also advises the Commonwealth Government and State Governments on the merits of reputed cures or methods of treatment which are from time to time brought forward for recognition. The Council advises the Commonwealth Minister for Health on the application of funds from the Medical Research Endowment Fund which provides assistance to Commonwealth Government Departments, State Departments, Universities, Institutions and persons for the purposes of medical research and for the training of persons in medical research. The Commonwealth Government makes annual appropriations to the fund on the basis of a three year rolling program. The allocation for 1980-81 is \$18.0 million. The secretariat for the Council and its Committees is provided by the Commonwealth Department of Health and is located in Canberra.

The Commonwealth Institute of Health (formerly the *School of Public Health and Tropical Medicine*) is located in the University of Sydney and provides teaching, research and consultation in all fields relating to health and its maintenance and promotion including resources devoted to the study of health problems of the tropics and developing nations. The Institute's academic and research functions are under the direction of the University, whilst its various training, consultative and professional service roles are maintained by the Commonwealth Department of Health which funds the Institute's activities.

The Institute has an important new role as a resource and data collection centre for the nation and it is endeavouring to promote health and a better understanding of health care and its delivery throughout Australia and neighbouring countries.

The Institute offers undergraduate and postgraduate training in a wide range of Public Health specialities, the largest programme being the Master of Public Health.

Costs for the Institute paid by the Commonwealth Government during 1979-80 were \$2,235,646 for administration and \$169,997 for plant and equipment.

The *Institute of Child Health* is associated with the Commonwealth Institute of Health located at the University of Sydney and with the Royal Alexandra Hospital for Children at Camperdown. Its activities include research into medical and social problems of childhood, undergraduate and post-graduate teaching at the University of Sydney, collaboration with other national and international organisations concerned with child health and disease, and the training of United Nations Colombo Plan Fellows. Costs of the Institute paid by the Commonwealth Government during 1978-79 were \$554,866 for administration and \$44,250 for plant and equipment.

The *Australian Dental Standard Laboratory* is concerned with the quality, standards, and research related to dental and other biomedical materials. The number of samples tested in 1979-80 was 298.

The *National Biological Standards Laboratory* is responsible for the development of standards for therapeutic goods and for testing such products for compliance with standards to ensure that they are safe, pure, potent and efficacious. Other responsibilities, including the inspection of manufacturing premises, the evaluation of new and modified products and the investigation of complaints, make it the linchpin of a uniform national system of control over therapeutic goods.

The British Pharmacopoeia, the British Pharmaceutical Codex and the British Veterinary Codex are specified as primary standards. In addition, the Minister has powers to make orders setting standards for specific types of goods and general classes of goods which are imported, or the subject of interstate trade, or supplied to the Commonwealth Government. Standards developed by the National Biological Standards Laboratory are submitted to a statutory committee, the Therapeutic Goods Standards Committee, which advises the Minister on their suitability.

The Laboratory, jointly with State officials and the pharmaceutical industry, prepares and revises an Australian Code of Good Manufacturing Practice which is the criterion employed by inspectors for the licensing of pharmaceutical manufacturers.

The Laboratory has sections which deal with viral products, bacterial products, pharmaceutical products, antibiotics and pharmacology. Administrative costs for 1979-80 were \$3,717,990 and a further \$171,482 was expended on plant and equipment.

The *Australian Drug Evaluation Committee* makes medical and scientific evaluations both of such goods for therapeutic use as the Minister for Health refers to it for evaluation and of other goods for therapeutic use which, in the opinion of the Committee, should be so evaluated, and advises the Minister for Health as it considers necessary relating to the importation into and the distribution within Australia of goods for therapeutic use that have been the subject of evaluation by the Committee. It has the powers to co-opt and seek advice from specialist medical colleges and associations and from the medical and allied professions, drug manufacturers and other sources. During 1979-80 seventy applications for approval to market new drugs and twelve applications to extend the indications or amend dosage regimes for currently marketed drugs were considered by the Committee. Forty-six applications were approved, twenty-nine rejected and seven deferred pending production of further information on safety and efficacy. Under the Committee's control are the Australian Registry of Adverse Reactions to Drugs, which provides an early warning system based on reports of reactions to drugs forwarded voluntarily by medical practitioners, pharmacists, hospitals, etc; the Adverse Drug Reaction Advisory Committee, which gives initial consideration to the adverse drug reaction reports received by the Registry and arranges feedback to the medical profession; the Vaccines Sub-Committee; the Endocrinology Sub-Committee; the Congenital Abnormalities Sub-Committee; the Parenteral Nutrition Sub-Committee; the Anti-Cancer Drugs Sub-Committee; the Radiopharmaceuticals Sub-Committee; and the National Drug Information Advisory Sub-Committee, formed to oversight administrative aspects of the technical input to the National Drug Information Service.

The *Therapeutic Goods Advisory Committee* considers, and advises the Minister for Health on, any matters relating to standards applicable to goods for therapeutic use and the administration of the Therapeutic Goods Act. The *Therapeutic Goods Standards Committee*, under the same Act, advises the Minister for Health on standards applicable to goods for therapeutic use and requirements relating to the labelling and packaging of any such goods.

The *National Therapeutic Goods Committee* comprises Federal and State representatives. Its function is to make recommendations to the Commonwealth and State Governments on action necessary to bring about co-ordination of legislation and administrative controls on therapeutic goods. Sub-committees have been formed to consider specific matters, notably advertising, establishment of a National Product Register, a Code of Good Manufacturing Practice, and standards for disinfectants.

The *Standing Committee of the Health Ministers Conference* was established by the 1980 Australian Health Ministers' Conference to carry out any tasks or directions referred to it by the Conference. The Committee's membership consists of representatives from each State health authority, the Commonwealth Departments of Health and Veterans' Affairs, the Northern Territory Department of Health and the Capital Territory Health Commission.

Other Commonwealth Government subsidies and grants to States

Home nursing subsidy scheme

The *Home Nursing Subsidy Scheme* provides for an annual Commonwealth subsidy to approved home nursing services. Organisations eligible for the subsidy are those which are non-profit making, employ registered nurses, and receive assistance from a State Government or from local government bodies. During 1979-80 subsidies totalling \$12.3m were paid to 192 organisations providing home nursing services in the States. Home nursing services in the Northern Territory were provided by the Commonwealth Department of Health until 1 January 1979, when responsibility was transferred to the Northern Territory Government. In the Australian Capital Territory, these services have been provided by the Capital Territory Health Commission.

Paramedical services

The *States Grants (Paramedical Services) Act 1969* provides for the Commonwealth Government to share on \$1 for \$1 basis with participating States the cost of approved paramedical services such as chiropody, occupational therapy, physiotherapy and speech therapy provided wholly or mainly for aged persons in their homes. Matching grant payments during 1979-80 amounted to \$876,000.

Community health program

The Commonwealth Government's *Community Health Program* provides grants for both capital and operating costs for the establishment or improvement of a wide range of community-based health and health-related welfare services particularly in areas of health service scarcity. The Program is also intended to promote particular aspects of health care such as prevention, health education, health maintenance and rehabilitation.

Under the Program, the Commonwealth Government contributes up to 50 per cent of both capital and operating costs for general community health projects; up to 50 per cent of capital costs and 75 per cent of operating costs for women's refuges; and 75 per cent of both capital and operating costs for ethnic health workers and interpreter/translator services.

In 1980-81, an amount of \$60.075m has been appropriated for the block grants to the States. Included in this amount is \$58.82m for general projects and women's refuges, \$0.315m for ethnic health workers and \$0.940m for interpreters and translators.

In addition to these grants to the States for projects operating at State or local levels, the Commonwealth provides funds—generally on a 100 per cent basis—direct to national projects conducted by non-government organisations. In 1980-81 there are fifteen such projects.

COMMUNITY HEALTH PROGRAM: EXPENDITURE FROM APPROPRIATION BY THE
COMMONWEALTH DEPARTMENT OF HEALTH
(\$'000)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	States Total	N.T.	A.C.T.	National Projects	Aust.
1974-75	14,289	4,975	3,173	2,417	4,003	1,026	29,883	—	—	4,720	34,603
1975-76	24,430	10,863	5,421	3,840	2,877	1,954	49,385	40	17	4,877	54,319
1976-77	28,934	15,021	7,602	4,700	5,696	2,599	64,552	—	—	4,292	68,844
1977-78	30,436	17,670	6,960	4,285	5,330	2,603	67,284	6	—	5,252	72,542
1978-79	19,671	12,473	5,231	3,580	4,611	2,090	47,656	40	—	5,638	53,334
1979-80	20,518	13,134	4,788	2,650	4,819	1,936	47,845	412	—	6,000	54,257

School Dental Scheme

The *School Dental Scheme* was established in 1973 by co-operation between the Commonwealth and State Governments. The aim of the Scheme is to improve the dental health and awareness of the community through the provision of free dental care, including dental health education and prevention, to primary school children.

The Scheme is based on the training and employment of dental therapists working under the general supervision of dentists. Treatment is provided in clinics established in or near the schools. Emphasis is placed on prevention of dental disease and on dental health education so as to reduce, as far as possible, the incidence of disease and costs of treatment. Some 36 per cent of the nation's primary school population is presently covered by the School Dental Scheme.

Nine dental therapy schools, located in all States, are presently operating under the Scheme. In addition, 756 school dental clinics, including mobile clinics, are also in operation under the Scheme.

The overall approved costs of the Scheme are being shared by the Commonwealth, the States and the Northern Territory on a 50:50 basis. Details of Commonwealth expenditure on the Scheme to date, including estimated expenditure in 1980-81, together with the number of primary school children examined during the 1979-80 financial year appear below.

COMMONWEALTH EXPENDITURE: SCHOOL DENTAL SCHEME

(\$ millions)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Aust.
1975-76	3.96	3.40	6.30	3.37	5.13	1.86	—	24.02
1976-77	5.78	3.60	3.92	3.93	3.59	1.61	—	22.43
1977-78	3.98	3.86	4.87	5.34	3.85	1.81	—	23.71
1978-79	3.35	3.35	3.63	3.54	2.70	1.41	—	17.98
1979-80	4.99	3.77	4.42	3.63	3.97	2.07	0.40	23.25
1980-81 (est.)	4.86	3.96	4.80	3.47	3.77	1.83	0.56	23.25

Note: For funding purposes, the Northern Territory entered the Scheme on 1 July 1979.

The number of primary school children examined by the various school dental services in Australia in 1979-80 totalled 669,993; New South Wales, 146,081; Victoria, 51,368; Queensland, 123,485; South Australia, 141,192; Western Australia, 114,211; Tasmania, 50,830; Northern Territory, 11,181 and the Australian Capital Territory, 31,645.

Commonwealth Government grants to organisations associated with public health

In addition to providing the services mentioned on pages 213-20 the Commonwealth Government gives financial assistance to certain organisations concerned with public health. Examples of organisations included in this category are given in the following text.

The *Royal Flying Doctor Service* is a non-profit organisation providing medical services in remote areas of Australia. It is distinct from, but co-ordinates with, the Aerial Medical Service which, while formerly operated by the Commonwealth Department of Health, has been operated by the Northern Territory Government since 1 January 1979. The Royal Flying Doctor Service is financed mostly from donations and government contributions. For the year ended 30 June 1980 the Commonwealth Government paid grants totalling \$2,507,000 towards operational costs and matching assistance of \$753,262 towards an approved program of capital expenditure. The Service made flights during 1979-80 totalling 6.3 million kilometres and transported 8,664 patients. In the same period medical staff conducted a total of 92,635 consultations and dental treatment was given to 3,123 patients.

The *Red Cross Blood Transfusion Service* is conducted by the Australian Red Cross Society throughout Australia. The operating costs of the Service in the States are met by the State Governments paying 60 per cent, the Society 5 per cent of net operating costs or 10 per cent of donations, whichever is the less, and the Commonwealth Government meeting the balance. In the Northern Territory the Society contributes to operating costs as it does in the States, and the Commonwealth met the balance prior to 1 January 1979. After this date the Northern Territory is in the same position as the States. Approved capital expenditure by the Service in the States is shared on a \$1 per \$1 basis with the States and after 1 January 1979, with the Northern Territory Government. Commonwealth Government expenditure for each State and the Northern Territory during 1979-80 was \$7,470,731, made up as follows: New South Wales, \$2,301,328; Victoria, \$2,172,027; Queensland, \$977,921; South Australia, \$1,019,494; Western Australia, \$750,777; Tasmania, \$161,400; and Northern Territory, \$87,784.

The *National Heart Foundation of Australia* is a voluntary organisation established with the objective of reducing the toll of heart disease in Australia. It approaches this objective by programs sponsoring research in cardiovascular disease, community and professional education directed to prevention, treatment and rehabilitation of heart disease and community service programs including rehabilitation of heart patients, risk assessment clinics and surveys and documentation of various aspects of heart disease and treatment of heart disease in Australia. The Foundation's income in 1979 was \$3,613,503 of which \$2,892,524 was from public donations and bequests. The Commonwealth Government made grants of \$75,535 for specific projects conducted by the Foundation. Since the inception of the Foundation research has been a major function and a total of \$11,333,000 has been expended in grants to university departments, hospitals and research institutes and for fellowships tenable in Australia and overseas. It is notable however that with increasing opportunities for prevention and control of heart disease, the Foundation's education and community service activities are increasing significantly. In 1979 the expenditure on research was \$1,282,248 while expenditure on education and community service was \$875,982.

The *World Health Organization* (WHO) is a specialised agency of the United Nations having as the objective the attainment by all peoples of the highest level of health. Australia is assigned to the Western Pacific Region, the headquarters of which is at Manila and is represented annually at both the World Health Assembly in Geneva and the Regional Committee Meeting in Manila. Australia's contribution to WHO for 1979-80 was \$2,716,591.

The *International Agency for Research on Cancer* (IARC) was established in 1965 within the framework of the World Health Organization. The headquarters of the Agency are located in Lyon, France. The objectives and functions of the Agency are to provide for planning, promoting and developing research in all phases of the causation, treatment and prevention of cancer. Australia's contribution to the IARC for 1979-80 was \$361,660.

The *Isolated Patients Travel and Accommodation Assistance Scheme* commenced on 1 October 1978. The purpose of the Scheme is to financially assist patients living in isolated areas with costs incurred where they need to travel in excess of 200 kilometres to obtain specialist medical treatment from the nearest suitable medical specialist or consultant physician. For the 12 months up to 30 June 1980, 19,208 patients had been approved for benefit under the Scheme with a cost to the Commonwealth of \$2,321,000.

Public health legislation and administration

For a comprehensive account of the administration of health services in each State, the Northern Territory and the Australian Capital Territory, *see* the annual reports of the respective health departments and health commissions. For details of legislation and administrative changes in previous years *see* earlier issues of the Year Book.

Supervision and care of infant life

Because the health of mothers and infants depends largely on pre-natal care as well as after-care, government, local government and private organisations provide instruction and treatment for mothers before and after confinement. The health and well-being of mother and child are looked after by infant welfare centres, baby clinics, crèches, etc.

In all States, Acts have been passed with the object of supervising the conditions of infant life and reducing the rate of mortality. Stringent conditions regulate the adopting, nursing and maintaining of children placed in foster-homes by private persons.

HOSPITALS AND NOTIFIABLE DISEASES

Public and Private Hospitals and Nursing Homes

The ABS no longer publishes Australia-wide details of these institutions although some limited State information is published by State offices of the ABS. Information is also published in the Annual Reports of the Commonwealth Department of Health.

Repatriation hospitals

A full range of services for the medical care and treatment of eligible veterans and certain dependants is available from the Department of Veterans' Affairs hospital system. Patients from the general community may also receive treatment at Repatriation hospitals provided bed capacity is available above the needs of the entitled veteran and the hospital facilities are appropriate to the treatment required.

In-patient treatment is provided at the six acute-care Repatriation General Hospitals (one in each State) and three auxiliary hospitals. In-patient treatment may also be provided in non-departmental public and private hospitals at the Department's expense in certain circumstances.

Mental patients requiring custodial care are, by agreement with the State Governments, accommodated at the expense of the Department in mental hospitals administered by the State authorities.

Details of patients, staff and expenditure on Repatriation institutions and other medical services are given in Chapter 9, Social Security and Welfare.

Hansenide hospitals

There are two isolation hospitals in Australia for the care and treatment of persons suffering from Hansen's disease (leprosy). The numbers of isolation patients at these hospitals in the year ended 31 December 1979 were: Little Bay, New South Wales, 0; and Derby, Western Australia, 22.

In Queensland, leprosy sufferers are treated at the leprosy annex of the Palm Island Hospital and at a number of other hospitals which do not have facilities set aside specifically for leprosy patients.

In the Northern Territory at 30 June 1980 there were 27 in-patients for the care and repair of deformity at the East Arm Hospital.

Mental health institutions

The presentation of meaningful statistics of mental health services has become increasingly difficult because of changes in recent years in the institutions and services for the care of mental patients. The emphasis has shifted from institutions for care of patients certified insane to a range of mental health services provided for in-patients and out-patients at psychiatric hospitals, admission and reception centres, day hospitals, out-patient clinics, training centres, homes for the mentally retarded and geriatric patients, psychiatric units in general hospitals, and the like. Numbers of institutions, beds available, staff and patients treated at locations catering only for the mentally ill in 1973-74 were published in Year Book No. 61, page 465. More recent figures indicate that fewer patients were treated as in-patients in nearly every State, but this should not be considered as an indication of improved mental health; it is rather a more advanced method of treatment, allowing patients greater contact with the outside world.

Hospital morbidity statistics

A major factor in the cost of health care in Australia is hospital treatment of patients. Attempts to measure the number of in-patients treated and bed-days involved for each disease or injury have been going on for some years, but as coverage is incomplete it is not yet possible to present national statistics. Figures for Queensland, Western Australia and Tasmania, however, are published in the ABS publications *Patients Treated in Hospitals* (4303.3), *Hospital In-patient Statistics* (4301.5) and *Hospital Morbidity* (4301.6) respectively. Statistics for New South Wales are published by the State Health Commission in its publication, *Hospital Inpatients Statistics New South Wales*.

An examination of Western Australian figures for 1978 indicates that the largest numbers of patients were treated for injury (11.1 per cent), genito-urinary diseases (10.2 per cent) and respiratory diseases (10.0 per cent) but, in terms of hospital bed-days, the greatest occupancy rate was caused by diseases of the circulatory system (11.7 per cent) followed by injury (10.9 per cent) and maternity (9.6 per cent).

Notifiable diseases

Although State and Territory health authorities are responsible for the prevention and control of infectious diseases within their areas of jurisdiction, certain powers and responsibility may be delegated to local authorities within each State. These usually involve such activities as personal health services, environmental sanitation and local communicable disease control.

The Commonwealth Department of Health receives notification figures from the States and Territories on a monthly basis which are published in *Communicable Diseases Intelligence*. The national totals for the year are published in the annual report of the Director-General of Health.

The following table shows, by State and Territory, the number of cases notified in 1979 for those diseases which are notifiable in all States and Territories. The table does not include diseases which are notifiable only in certain States or Territories. Factors such as the following affect both the completeness of the figures and the comparability from State to State and from year to year: availability of medical and diagnostic services; varying degrees of attention to notification of diseases; and enforcement and follow up of notifications by health authorities.

NOTIFIABLE DISEASES(a), NUMBER OF CASES NOTIFIED 1979

Disease	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Brucellosis	17	9	3	28	1	—	—	—	58
Cholera	—	1	—	—	—	—	—	—	1
Diphtheria	—	—	—	—	—	—	—	—	—
Gonorrhoea	3,656	2,601	1,695	1,110	1,203	191	911	280	11,647
Hepatitis, infective	644	490	242	108	48	86	217	62	1,897
Hepatitis, serum	177	268	88	189	30	1	17	15	785
Hydatid	10	5	2	3	—	1	—	6	27
Leprosy	5	9	9	6	12	—	18	—	59
Leptospirosis	2	36	12	15	1	—	—	—	66
Malaria	93	68	132	33	35	1	9	18	389
Ornithosis	2	—	—	7	1	1	—	—	11
Poliomyelitis	—	—	—	—	—	—	—	—	—
Salmonella	284	128	115	461	451	28	294	19	1,780
Syphilis	784	113	1,097	355	230	2	578	6	3,165
Tetanus	3	6	5	1	—	—	—	—	15
Tuberculosis	598	399	241	123	179	17	35	20	1,612
Typhoid fever	13	4	2	—	4	1	—	—	24
Typhus (all forms)	—	—	2	—	1	—	—	—	3

(a) There were no cases of plague, smallpox or yellow fever.

Health-related surveys conducted by the ABS

Alcohol and Tobacco Consumption Survey

A survey conducted by ABS in February 1977 into alcohol and tobacco consumption patterns of the Australian population aged 18 years and over showed that 2.2 per cent of them drank over 80 grams of alcohol per day (considered by health authorities to be heavy drinking) and 35.9 per cent currently smoked cigarettes.

Consumption patterns by State and by such personal characteristics as sex, age, marital status and occupation are published in the publications *Alcohol and Tobacco Consumption Patterns, February 1977* (4308.0 and 4312.0).

Australian Health Survey

A survey was conducted by ABS during the period July 1977–June 1978 to obtain information on the health of Australians and the use of and need for various health services and facilities. Topics covered by the survey included recent and chronic illness, accidents, use of medicines, and use of doctors, dentists, and other health workers and facilities, as well as a range of personal and family characteristics. The items are described more fully in *Australian Health Survey Information Paper* (4340.0). Summary results of the survey have been published in *Australian Health Survey 1977–1978* (4311.0), detailed results are published in a series of publications (4312.0 to 4322.0) dealing with the special topics of the survey.

The main features of the survey results are:

- Approximately 45.1 per cent of the Australian population reported having one or more chronic conditions, the most frequently reported being Arthritis, Hayfever and Hypertensive disease.
- On average, 57.0 per cent of persons with a chronic condition had consulted a doctor about their major chronic condition in the previous six months.
- Of the 6.2 million persons with a chronic condition, 1.4 million reported being limited in their activities because of illness. This comprises 10.3 per cent of the population aged 2 years and over.
- Approximately 64.2 per cent of persons reported consulting a doctor in the 6 months before interview; 17.7 per cent reported consulting a doctor in the 2 weeks before interview.
- 49.8 per cent of persons reported taking medication in the two days before interview; 32.7 per cent of the population indicated that some or all of their medications were prescribed. The types of medications ranged from vitamins and tonics through to medicines for heart conditions and blood pressure.
- Approximately 7.0 per cent of persons aged 2 years or more had one or more days in bed due to illness or injury in the two weeks before interview.
- 65.3 per cent of persons reported experiencing an illness or other health problem in the two weeks before interview.

- A total of 16.4 million recent illnesses (i.e. experienced in the two weeks before interview) were reported in the survey. Major groups of conditions reported were diseases and symptoms of the respiratory system (e.g. common cold) which comprised 30.3 per cent of the total; mental disorders, nervous tension and depression, 22.4 per cent; and diseases and symptoms of the musculoskeletal system and connective tissue (e.g. arthritis, back pain), 18.4 per cent.
- 18.7 per cent of all recent illnesses (or other health problems) involved a doctor consultation in the same two week reference period.
- Of the Australian population aged 2 to 5 years, 3.5 per cent had NOT received any immunisation against Poliomyelitis (Sabin vaccine) and 2.2 per cent had NOT received any doses of Triple Antigen vaccine for immunisation against Diphtheria, Tetanus and Whooping Cough.
- 12.7 per cent of persons reported one or more hospital episodes (admissions and discharges) in the twelve months before interview.
- The average number of days of hospitalisation of persons reporting one or more hospital episodes was about 10 days throughout the year.
- "Surgery" was the most frequently reported reason for the most recent episode in hospital (47.0 per cent of persons).
- The survey also collected some information on consultations with health professionals other than doctors and dentists (e.g. nurses, physiotherapists, chemists, chiropractors). It was found the most frequently reported type of other health professional consulted in the four weeks preceding interview was a chemist (reported by 2.5 per cent of persons).

A special publication (4323.0) has also been released outlining the Concepts, Methodology and Procedures used in the survey.

Health Insurance Survey

In March 1980 the ABS conducted a survey throughout Australia to obtain information about levels of health insurance cover in the Australian community. The survey obtained, in respect of contributor units, details of the hospital and medical insurance arrangements they had at the time of the survey, and their arrangements 12 months previously.

The survey found that as at March 1980, 59.4 per cent of all possible contributor units had some type of private health insurance. A further 15.8 per cent were covered by special Commonwealth health benefits (i.e. as pensioners, veterans or disadvantaged) leaving 24.8 per cent of all possible contributor units with neither health insurance nor access to special Commonwealth health benefits. Comparing the overall results with those obtained in a similar survey in March 1979, there appears to have been a net decrease of 3 percentage points in the proportion of contributor units with some type of private health insurance.

Results of the survey showing such details as type and level of health insurance cover; income and composition of contributor units; age of head of contributor unit; special Commonwealth health benefits and charges in health insurance cover in the previous 12 months are published in *Health Insurance Survey, Australia, March 1980* (4335.0).

Hearing Survey

In September 1978 the ABS conducted a survey to obtain information about hearing problems for persons aged 15 years or more. Details included the cause and extent of their problem, whether a hearing aid was used, and if not, the reason for not using an aid. It also contained data on whether persons have had their hearing tested in the last 5 years.

The main features of this survey were:

- Approximately 7 per cent of the total Australian population aged 15 years or more reported some form of hearing problem.
- The two main causes of hearing problems for these persons are constant noise and disease or illness.
- Of persons reporting a hearing problem, 20 per cent possess a hearing aid.
- Approximately 16 per cent of the population aged 15 years or more had their hearing tested in the last 5 years.

Results of the survey have been published in the publication *Hearing and the Use of Hearing Aids (Persons aged 15 years or more) September 1978* (4336.0).

A similar survey was conducted for persons aged 2 to 14 years but contained data only on cause of hearing problem and whether persons have had their hearing tested in the last 5 years. Results of this survey are contained in the publication *Sight, Hearing and Dental Health (Persons aged 2 to 14 years) February-May 1979* (4337.0).

Sight Survey

During February to May 1979 the ABS conducted a survey to obtain information on sight problems and the use of glasses/contact lenses for the Australian population aged 2 years or more. Details included type of sight problems, reason glasses/contact lenses are worn, how often they are worn and whether persons have had their sight tested in the last 5 years.

The main features of the survey were:

- Approximately 39 per cent of the population reported having some loss of sight. However only 3 per cent of all persons aged 2 years or more reported that the loss of sight could not be helped by glasses/contact lenses.
- Approximately 38 per cent of the population have glasses/contact lenses. Almost 40 per cent of persons with glasses/contact lenses wear them for more than 8 hours a day. However, approximately 4 per cent wear their glasses/contact lenses less than once a week or never.
- The most frequently reported reason for using glasses/contact lenses was 'to help see close up only' reported by 52 per cent of persons with glasses/contact lenses.

Results of the survey for persons aged 2 to 14 years have been published in the publication *Sight, Hearing and Dental Health (persons aged 2 to 14 years) February–May 1979* (4337.0). For persons aged 15 years or more the relevant publication is *Sight Problems and the Use of Glasses/Contact Lenses (persons aged 15 years or more) February–May 1979* (4338.0).

Dental Survey

During February to May 1979 the ABS conducted a survey to obtain information on the dental health of the Australian population aged 2 years or more. Information collected included time since last visit to a dentist; number of visits in the last 12 months, treatment received at last visit and usual number of check-ups per year. Data were also collected for persons aged 15 years or more as to whether false teeth were worn.

The main features of the survey were:

- Approximately 48 per cent of the population had their most recent visit to a dentist within the last 12 months.
- The most frequently reported type of treatment received at the last visit reported by persons who visited a dentist in the last 12 months was Filling(s), reported by 44 per cent of these persons.
- Approximately 32 per cent of the population usually have a dental check-up at least once a year.
- Of persons aged 15 years or more, over 40 per cent (42.3 per cent) have some false teeth, although only 45 per cent of persons with some false teeth have full sets for both upper and lower jaws.

Results of the survey for persons aged 2 to 14 years have been published in the publication *Sight, Hearing and Dental Health (persons aged 2 to 14 years) February–May 1979* (4337.0). For persons aged 15 years or more the relevant publication is *Dental Health (persons aged 15 years or more) February–May 1979* (4339.0).

DEATHS

Causes of Death and Perinatal Deaths

Causes of death in Australia are currently classified according to the Ninth Revision of the International Classification of Diseases (ICD) produced by the World Health Organization (WHO). For the years 1968 to 1978, causes of death were classified according to the Eighth Revision of the ICD. Detailed statistics are published in the publication *Causes of Death, Australia* (3303.0), and only broad groupings of causes of death are shown in the table below. The statistics in the table relate to 1978 and represent the number of deaths registered that year rather than the number of deaths which actually occurred in 1978.

The major causes of death in the community in 1978 were ischaemic heart disease (accounting for 30.0 per cent), malignant neoplasms (cancers) (20.2 per cent), cerebrovascular disease (strokes) (13.0 per cent) and external injuries (7.9 per cent). Infectious diseases have caused few deaths in Australia in recent years, largely as a result of quarantine activities, immunisation campaigns and similar measures. In 1978, only 0.5 per cent of all deaths were due to such diseases.

The relative importance of groups of causes of death varies with age. Heart disease, cancer and strokes are predominant in middle and old age. Accidents, particularly those involving motor vehicles, are the primary cause of death in childhood and early adulthood. The majority of infant deaths (67 per cent) occur within 28 days after birth. Nearly all of these neonatal deaths are due to congenital anomalies, birth injury or other conditions present from birth.

CAUSES OF DEATH IN EACH AGE GROUP, AUSTRALIA, 1978

	Age group (years)									
Causes of death	Under one	1-14	15-24	25-34	35-44	45-54	55-64	65-74	75 and over	Total (a)
	NUMBER OF DEATHS									
Malignant neoplasms	10	168	153	339	786	2,434	5,090	6,531	6,376	21,887
Ischaemic heart disease	—	—	9	83	513	2,311	5,771	9,604	14,239	32,532
Cerebrovascular disease	—	10	30	68	203	551	1,410	3,252	8,624	14,149
Other diseases of the circulatory system	9	26	47	86	150	399	1,050	2,126	6,348	10,241
Congenital anomalies	711	121	47	24	25	29	27	26	15	1,025
Certain causes of perinatal mortality	1,187	1	—	—	—	—	—	—	—	1,188
Bronchitis, emphysema and asthma	3	26	33	25	45	212	715	1,445	1,950	4,454
Other diseases of the respiratory system	104	46	28	24	52	131	249	479	1,923	3,037
Motor vehicle accidents	19	336	1,452	598	307	319	336	273	199	3,840
Other accidents	47	285	337	244	260	259	256	265	816	2,773
Suicides and self-inflicted injuries	—	6	284	329	268	283	223	134	66	1,595
All other causes	643	267	311	396	542	1,185	1,740	2,548	4,071	11,704
All causes	2,733	1,292	2,731	2,216	3,151	8,113	16,867	26,683	44,627	108,425
RATE(b)										
Malignant neoplasms	4	5	6	15	48	159	400	770	1,368	154
Ischaemic heart disease	—	—	—	4	31	151	454	1,132	3,055	228
Cerebrovascular disease	—	—	1	3	12	36	111	383	1,851	99
Other diseases of the circulatory system	4	1	2	4	9	26	83	251	1,362	72
Congenital anomalies	317	3	2	1	2	2	2	3	3	7
Certain causes of perinatal mortality	529	—	—	—	—	—	—	—	—	8
Bronchitis, emphysema and asthma	1	1	1	1	3	14	56	170	418	31
Other diseases of the respiratory system	46	1	1	1	3	9	20	56	413	21
Motor vehicle accidents	8	10	58	26	19	21	26	32	43	27
Other accidents	21	8	14	11	16	17	20	31	175	19
Suicides and self-inflicted injuries	—	—	11	15	16	18	18	16	14	11
All other causes	287	8	12	17	33	77	137	300	874	82
All causes	1,219	37	110	98	191	529	1,326	3,146	9,576	761
PERCENTAGE(c)										
Malignant neoplasms	0.4	13.0	5.6	15.3	24.9	30.0	30.2	24.5	14.3	20.2
Ischaemic heart disease	—	—	0.3	3.7	16.3	28.5	34.2	36.0	31.9	30.0
Cerebrovascular disease	—	0.8	1.1	3.1	6.4	6.8	8.4	12.2	19.3	13.0
Other diseases of the circulatory system	0.3	2.0	1.7	3.9	4.8	4.9	6.2	8.0	14.2	9.4
Congenital anomalies	26.0	9.4	1.7	1.1	0.8	0.4	0.2	0.1	—	0.9
Certain causes of perinatal mortality	43.4	0.1	—	—	—	—	—	—	—	1.1
Bronchitis, emphysema and asthma	0.1	2.0	1.2	1.1	1.4	2.6	4.2	5.4	4.4	4.1
Other diseases of the respiratory system	3.8	3.6	1.0	1.1	1.7	1.6	1.5	1.8	4.3	2.8
Motor vehicle accidents	0.7	26.0	53.2	27.0	9.7	3.9	2.0	1.0	0.4	3.5
Other accidents	1.7	22.1	12.3	11.0	8.3	3.2	1.5	1.0	1.8	2.6
Suicides and self-inflicted injuries	—	0.5	10.4	14.8	8.5	3.5	1.3	0.5	0.1	1.5
All other causes	23.5	20.7	11.4	17.9	17.2	14.6	10.3	9.5	9.1	10.8
All causes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Includes a small number whose ages are not known.
year of age which are per 100,000 live births registered.

(b) Rates are per 100,000 of population at risk, except for children under one
(c) Percentage of all deaths within each age group.

Perinatal deaths

Since deaths within the first four weeks of life (neonatal deaths) are mainly due to conditions originating before or during birth, and the same conditions can cause foetal death (stillbirth), special tabulations are prepared combining the two. These are termed 'perinatal deaths' and include all children born dead after the twentieth week of gestation or weighing 400 grams or more at delivery and all live-born children who die within 28 days after birth. The following table shows the number of foetal, neonatal and perinatal deaths from the major groups of causes in 1978; further details are published in *Perinatal Deaths, Australia* (3304.0).

The three main groups responsible for perinatal deaths in 1978 were *Congenital anomalies* (19.8 per cent of all perinatal deaths), *Conditions of placenta* (17.5 per cent) and *Other complications of pregnancy and childbirth* (16.2 per cent). The main individual causes were *Premature separation of placenta* (8.7 per cent of all perinatal deaths) and *Placental insufficiency, unspecified* (4.8 per cent) within the *Conditions of placenta* group, *Pre-eclampsia of pregnancy* (5.9 per cent) within the *Toxaemias of pregnancy* group and *Multiple pregnancy* within the group, *Other complications of pregnancy and childbirth*.

PERINATAL DEATHS BY CAUSE, 1978

Cause of death	Number of deaths			Rate		
	Foetal	Neonatal	Perinatal	Foetal(a)	Neonatal (b)	Perinatal (a)
Chronic circulatory and genitourinary disease in mother	24	3	27	0.11	0.01	0.12
Other maternal conditions unrelated to pregnancy	109	46	155	0.48	0.21	0.68
Toxaemias of pregnancy	195	62	257	0.86	0.28	1.14
Maternal ante- and intrapartum infection	18	27	45	0.08	0.12	0.20
Difficult labour	51	65	116	0.23	0.29	0.51
Other complications of pregnancy and childbirth	302	338	640	1.33	1.51	2.83
Conditions of placenta	526	166	692	2.32	0.74	3.06
Conditions of umbilical cord	209	25	234	0.92	0.11	1.03
Birth injury without mention of cause	7	43	50	0.03	0.19	0.22
Haemolytic disease of newborn	28	23	51	0.12	0.10	0.23
Anoxic and hypoxic conditions not elsewhere classified	157	249	406	0.69	1.11	1.79
Other conditions of foetus and newborn	221	123	344	0.98	0.55	1.52
Congenital anomalies	264	517	781	1.17	2.31	3.45
Infections of foetus and newborn	2	51	53	0.01	0.23	0.23
Other diseases of foetus and newborn	7	91	98	0.03	0.41	0.43
External causes of injury to newborn	-	5	5	-	0.02	0.02
All causes	2,120	1,834	3,954	9.37	8.18	17.47

(a) Per 1,000 total births (live and dead).

(b) Per 1,000 live births.

The perinatal death rate in 1978 was 17.47 per 1,000 total births, compared with 23.34 per 1000 births in 1973. This represents a decrease in the perinatal death rate of 25 per cent over the six year period.

Cremation

The first crematorium in Australia was opened in South Australia in 1903. At 31 December 1979 there were thirty-four crematoria in Australia, situated as follows: New South Wales, 16; Victoria, 4; Queensland, 6; South Australia, 2; Western Australia, 3; Tasmania, 2; Australian Capital Territory, 1. There is no crematorium in the Northern Territory. The number of cremations carried out in 1977 was 49,265 (43.7 per cent of all deaths); in 1978 it was 49,858 (46.0 per cent of all deaths) and in 1979 the number was 49,308 (46.3 per cent of all deaths).

CHAPTER 11

LAW AND ORDER

Law and order throughout Australia are administered by Federal, State and Territorial governments and authorities. The principal authorities are the Australian Federal Police (formed in October 1979 by the incorporation of members of the former Commonwealth Police with the Australian Capital Territory Police), State police and Northern Territory Police; the Federal, State and Territory judiciary; and State and Territory corrective services. There are, as yet, no independent Federal corrective services.

This chapter provides information about crime in Australia; namely selected crimes reported or becoming known to police, and drug offences. There is also a description of the police, the Federal courts, legal aid, and the administration of law. Information is also given on convicted prisoners, bankruptcy, patents and design and copyright.

Detailed information about State and Territory police, courts, corrections and other law and order functions are provided in State Year Books and other statistical publications and in annual reports of the relevant authorities. Information may also be obtained from the New South Wales Bureau of Crime Statistics and Research and the South Australian Office of Crime Statistics which have been established by the respective State Governments and from the Australian Institute of Criminology which has been established by the Federal Government.

CRIME IN AUSTRALIA

In 1975, the Australian Bureau of Statistics, as part of a general social survey of households and of persons aged 15 years and over, conducted a survey of crime victims in which questions were asked about the nature and circumstances of selected offences and whether the incident was reported to the police. The results of the survey were published in detail in the ABS publication *General Social Survey, Crime Victims, May 1975* (4105.0). Some basic information from this survey was published in Year Book No. 64.

In addition to the Annual Reports of the Police Commissioners which provide information on known crime in each State and Territory, there are two regular sources of information relating to crime in Australia on a national basis. The series published as "Selected crime reported or becoming known to police" relates to specific offence groups about which the police forces in Australia have been reporting on a regular basis since 1964. The annual report *Drug Abuse in Australia* is published by the Australian Federal Police from information supplied to them by law enforcement agencies throughout Australia. Extracts from both of these sources are included below.

Selected crime reported to police

The following tables show details of certain categories of offences reported or becoming known to police. This series, which commenced in 1964, is derived from police records and is based as far as possible, on definitions and procedural arrangements uniformly determined for all States. For definitions and explanatory notes relating to the following statistics see Year Book No. 61, pp. 475-7.

Offences reported or becoming known to police

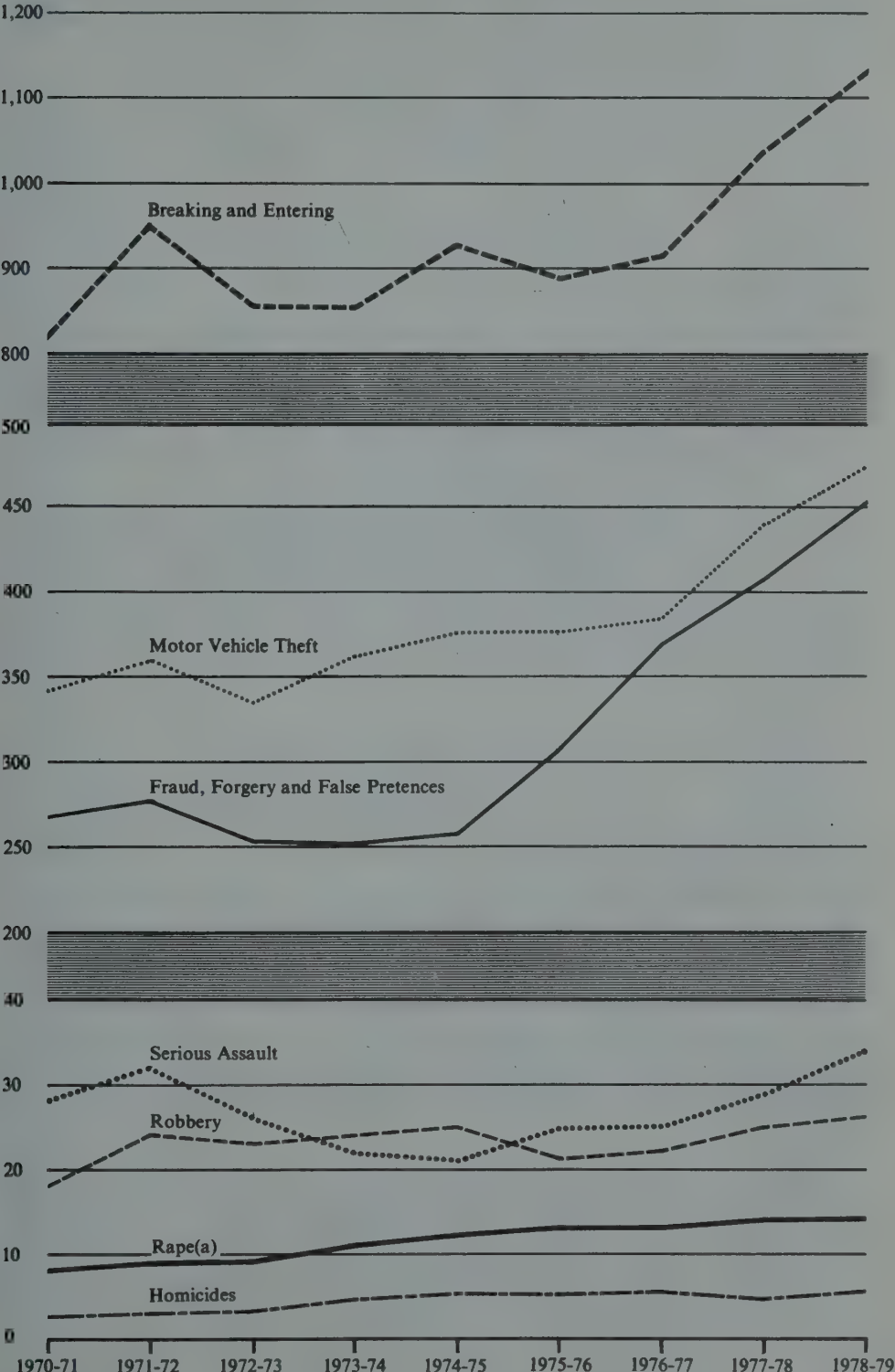
The following table shows, for each State and Territory, the number of offences in each of the seven categories covered by this series which were reported or became known to police. The table includes offences reported to and investigated by the Australian Federal Police.

SELECTED OFFENCES REPORTED OR BECOMING KNOWN TO POLICE^(a)
NUMBER OF OFFENCES^(b)

<i>Type of Offence</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
Homicide(c)—									
1976-77	314	171	136	57	39	11	33	4	765
1977-78	301	139	121	49	25	9	21	5	670
1978-79	303	183	167	65	39	8	18	1	784
Serious assault—									
1976-77	895	1,277	544	251	429	42	58	42	3,538
1977-78	1,076	1,531	738	262	367	85	42	53	4,154
1978-79	1,134	1,775	968	351	292	89	258	56	4,923
Robbery—									
1976-77	1,353	965	282	265	127	38	19	21	3,070
1977-78	1,716	1,110	318	213	155	26	24	15	3,577
1978-79	1,699	1,170	281	328	127	51	13	14	3,683
Rape—									
1976-77	307	264	77	148	93	17	15	7	928
1977-78	365	233	72	172	98	16	17	10	983
1978-79	419	215	61	165	96	22	13	7	998
Breaking and entering—									
1976-77	42,142	37,347	14,318	14,562	14,433	2,835	1,141	1,512	128,290
1977-78	49,392	45,573	16,366	15,273	14,550	3,145	1,111	1,746	147,156
1978-79	50,815	52,613	18,053	17,970	16,073	3,454	1,341	1,677	161,996
Motor vehicle theft (d)—									
1976-77	23,443	13,067	5,189	4,496	5,499	858	675	481	53,708
1977-78	27,018	15,487	5,709	5,516	6,394	933	645	593	62,295
1978-79	30,978	15,833	6,052	6,492	6,347	780	706	550	67,738
Fraud, forgery and false pretences—									
1976-77	18,349	14,166	8,946	3,604	3,524	984	503	1,695	51,771
1977-78	16,578	16,453	10,446	3,072	7,844	1,298	409	1,529	57,629
1978-79	19,723	16,423	11,476	4,644	9,160	853	615	1,753	64,647

(a) Figures shown for each State include offences reported or becoming known to the Australian Federal Police in that State. (b) Includes attempts and a relatively small number of unfounded reports. (c) Comprising murder, attempted murder, and manslaughter, including manslaughter arising from motor vehicle accidents. (d) Includes illegal, unlawful or unauthorised use, etc.

OFFENCES REPORTED OR BECOMING KNOWN TO POLICE: AUSTRALIA, RATES PER 100,000 OF MEAN POPULATION



(a) Rate per 100,000 of mean female population.

Offences cleared and persons involved

The tables which follow show, for the various categories of offences, the numbers of offences reported, the numbers cleared, and the numbers of persons involved according to age. Sub-divisions of the categories homicide, breaking and entering, and fraud, etc., are provided.

**HOMICIDE: OFFENCES REPORTED OR BECOMING KNOWN, OFFENCES CLEARED
AND PERSONS INVOLVED**

	<i>Murder</i>			<i>Attempted murder</i>			<i>Manslaughter(a)</i>			<i>All homicide</i>		
	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>
Numbers reported or becoming known	252	243	258	148	130	179	365	297	347	765	670	784
Numbers cleared	231	212	227	143	119	171	362	292	350	736	623	748
Persons involved in offences cleared—												
Aged(b)—												
16 years and under	13	3	16	4	2	8	6	5	9	23	10	33
17 and 18 years	15	9	15	14	11	13	37	34	40	66	54	68
19 and 20 years	21	32	15	9	11	7	58	40	51	88	83	73
21 years and over	198	167	182	99	93	130	210	178	217	507	438	529
Total persons involved	247	211	228	126	117	158	311	257	317	684	585	703

(a) Includes manslaughter arising from motor vehicle accidents.

(b) Age last birthday at time of clearance.

**SERIOUS ASSAULT, ROBBERY, RAPE: OFFENCES REPORTED OR BECOMING KNOWN, OFFENCES
CLEARED AND PERSONS INVOLVED**

	<i>Serious assault</i>			<i>Robbery</i>			<i>Rape</i>		
	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>
Numbers reported or becoming known	3,538	4,154	4,923	3,070	3,577	3,683	928	983	998
Numbers cleared	2,532	3,059	3,618	845	973	1,017	433	496	454
Persons involved in offences cleared—									
Aged (a)—									
16 years and under	209	262	300	183	187	176	74	67	56
17 and 18 years	293	355	402	210	224	203	109	103	108
19 and 20 years	357	393	425	193	206	199	95	111	94
21 years and over	1,763	2,076	2,304	460	540	625	249	292	267
Total persons involved	2,622	3,086	3,431	1,046	1,157	1,203	527	573	525

(a) Age last birthday at time of clearance.

**BREAKING AND ENTERING: OFFENCES REPORTED OR BECOMING KNOWN, OFFENCES CLEARED
AND PERSONS INVOLVED**

	<i>Dwellings</i>			<i>Shops</i>			<i>Other buildings</i>			<i>All breaking and entering</i>		
	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>
Numbers reported or becoming known	64,712	73,029	84,039	22,092	27,219	28,738	41,486	46,908	49,219	128,290	147,156	161,996
Numbers cleared	11,049	10,433	11,732	5,132	5,094	5,728	6,893	7,073	7,820	23,074	22,600	25,280
Persons involved in offences cleared—												
Aged (a)—												
16 years and under	3,951	4,155	4,065	2,494	2,583	2,540	3,787	3,928	4,091	10,232	10,666	10,696
17 and 18 years	884	955	1,051	864	953	1,080	827	946	1,043	2,575	2,854	3,174
19 and 20 years	552	598	714	509	513	607	466	504	543	1,527	1,615	1,864
21 years and over	1,319	1,412	1,701	1,125	1,154	1,276	1,034	1,151	1,270	3,478	3,717	4,247
Total persons involved	6,706	7,120	7,531	4,992	5,203	5,503	6,114	6,529	6,947	17,812	18,852	19,981

(a) Age last birthday at time of clearance.

**MOTOR VEHICLE THEFT, ETC., FRAUD, ETC.: OFFENCES REPORTED OR BECOMING KNOWN,
OFFENCES CLEARED AND PERSONS INVOLVED**

	<i>Motor vehicle theft(a)</i>			<i>Fraud, forgery, false pretences</i>								
				<i>Valueless chèques</i>			<i>Other</i>			<i>All Fraud, etc</i>		
	1976-77	1977-78	1978-79	1976-77	1977-78	1978-79(b)	1976-77	1977-78	1978-79(b)	1976-77	1977-78	1978-79
Numbers reported or becoming known	53,708	62,295	67,738	10,916	10,978	n.a.	40,855	46,651	n.a.	51,771	57,629	64,647
Numbers cleared	10,866	10,962	10,550	6,894	7,534	n.a.	24,533	28,246	n.a.	31,427	35,780	42,538
Persons involved in offences cleared—												
Persons aged(c)—												
16 years and under	5,064	5,615	4,888	88	95	n.a.	610	623	n.a.	698	718	764
17 and 18 years	2,708	2,878	2,746	147	133	n.a.	721	796	n.a.	868	929	895
19 and 20 years	1,333	1,466	1,291	159	188	n.a.	708	844	n.a.	867	1,032	985
21 years and over	2,041	2,184	2,065	1,661	1,615	n.a.	4,711	5,131	n.a.	6,372	6,746	6,842
Total persons involved	11,146	12,143	10,990	2,055	2,031	n.a.	6,750	7,394	n.a.	8,805	9,425	9,486

(a) Includes illegal, unlawful and unauthorised use, etc.

(b) Not available separately for Victoria.

(c) Age last birthday at time of clearance.

The number of stolen vehicles recovered was: 1976-77, 46,803; 1977-78, 52,623; 1978-79, 60,050.

Drug offences

Australia is a signatory to the Single Convention of Narcotic Drugs which has as its main aim the limitation of narcotic drugs for legitimate medical and research purposes.

As its name implies, the Single Convention covers only the so-called narcotic drugs including cannabis and its derivatives. In recognition that there are other drugs of dependence, the member nations met during 1970 and 1971 and drew up a further Convention to impose controls on psychotropic substances such as hallucinogens, amphetamines, other central nervous system stimulants, barbiturates, tranquillisers and certain other sedatives.

Legislative provisions

For details see Year Book No. 63, page 218.

Law enforcement in respect of drugs in Australia is handled mainly by the following bodies:

- State and Territory police forces who police State and Territory laws and Commonwealth laws in conjunction with Commonwealth authorities.
- The Australian Federal Police who police Commonwealth laws and who, in November 1979, took over the functions of the Narcotics Bureau from the Department of Business and Consumer Affairs.
- The Bureau of Customs in the Department of Business and Consumer Affairs which has responsibility for the enforcement of laws controlling importing and exporting of drugs.

The National Standing Control Committee on Drugs of Dependence was established in 1969 by the Commonwealth Government to co-ordinate the activities of the various Commonwealth, State and Territories' bodies participating in the administration of drug laws and control. The role of the Committee is to consider further steps that can be taken by the national and State Governments together to combat all aspects of drug abuse in Australia, including addiction, trafficking, treatment and education.

The Australian Federal Police serve as the national agency for the systematic collection, collation, evaluation and dissemination of information concerning the illicit drug traffic in Australia. The following extracts are from the detailed statistics published by them in the annual report *Drug Abuse in Australia (A Statistical Survey)*.

DRUG OFFENCES: OFFENCE TYPE, CLEARED BY CHARGE, 1977 TO 1979

Year	<i>Possess</i>	<i>Import</i>	<i>Use/ administer</i>	<i>Traffic</i>	<i>Steal</i>	<i>False pretences</i>	<i>Forged scripts</i>	<i>Other</i>	<i>Total</i>
1977	11,711	163	5,982	1,255	91	184	616	2,203	22,205
1978	9,667	144	4,866	1,325	343	106	534	2,380	19,365
1979	11,233	166	4,604	1,298	216	131	513	2,910	21,071

DRUG OFFENCES: NUMBER OF CHARGES(a) INVOLVING SPECIFIC DRUG TYPES, 1977 TO 1979

Type of drug and Year	Possess	Import	Use/ administer	Traffic	Steal	False pretences	Forged scripts	Other	Total
Narcotics—									
1977	1,194	93	1,138	305	58	133	474	281	3,676
1978	1,394	30	1,469	483	222	89	257	318	4,262
1979	1,068	73	1,009	414	137	73	379	367	3,520
Cannabis—									
1977	10,923	91	4,640	878	1	—	—	1,444	17,977
1978	8,589	126	3,263	780	15	—	—	1,476	14,249
1979	10,688	102	3,472	862	23	2	—	2,352	17,501
Amphetamines—									
1977	53	2	47	13	1	7	27	6	156
1978	46	—	46	5	—	5	18	3	123
1979	94	1	57	12	12	20	37	12	245
Barbiturates									
hypnotics—									
1977	331	—	277	96	13	20	49	24	810
1978	200	—	156	46	12	8	51	30	503
1979	359	—	263	53	45	32	104	51	907
Tranquillisers—									
1977	29	—	18	8	11	3	4	13	86
1978	54	—	50	10	29	10	32	8	193
1979	79	—	40	29	34	12	36	18	248
Hallucinogens—									
1977	166	—	51	28	—	—	—	5	250
1978	191	—	46	45	1	—	—	3	286
1979	186	—	40	33	—	—	1	18	278
Other—									
1977	53	3	10	4	7	5	7	24	113
1978	53	—	14	10	32	2	212	9	332
1979	46	—	12	48	30	8	14	14	172
Grand total—									
1977	12,749	189	6,181	1,332	91	168	561	1,797	23,068
1978	10,527	156	5,044	1,379	311	114	570	1,847	19,948
1979	12,520	176	4,893	1,451	281	147	571	2,832	22,871

(a) If a number of different drug types have been involved in an offence, they are counted under each drug category.

AGE DISTRIBUTION OF PERSONS CHARGED (a) WITH DRUG AND/OR DRUG RELATED OFFENCES

Year	16 years or less	17–18 years	19–25 years	26–30 years	31–49 years	50 years and over	Total persons
1977	690	2,312	7,212	1,414	483	31	12,142
1978	313	1,502	6,113	1,526	568	48	10,070
1979	311	1,552	6,725	1,783	825	37	11,233

(a) Persons counted only once, regardless of the number of occasions on which charged during the year.

Convicted prisoners

There are prisons in all States and the Northern Territory. In the Australian Capital Territory there is a lock-up attached to the city police station in Canberra, as well as a remand centre in the Canberra suburb of Belconnen where offenders are held for short periods. Prisoners sentenced by a court in the Australian Capital Territory to more than five days are usually held in New South Wales prisons.

CONVICTED PRISONERS

30 June—	N.S.W. (a)	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Aust.
1975	3,009	1,488	1,305	632	867	361	158	7,820
1976	3,221	1,490	1,399	594	873	297	160	8,034
1977	3,272	1,386	1,393	618	1,032	267	175	8,143
1978	3,406	1,608	1,470	690	1,120	271	134	8,699
1979	3,574	1,647	1,583	688	1,332	305	226	9,355
1980	3,201	1,847	1,582	768	1,359	270	220	9,247

(a) Includes Australian Capital Territory prisoners held in New South Wales prisons.

Police

The primary duties of the police are to prevent crime, to detect and detain offenders, to protect life and property, to enforce the law, and to maintain peace and good order. In addition, they perform many duties in the service of the State, e.g. they act as clerks of petty sessions in small centres, as crown land bailiffs, foresters, mining wardens, and inspectors under the Fisheries and various other Acts. In metropolitan and large country areas they also regulate the street traffic. With the exception of the Australian Federal Police and the police in the Northern Territory, the police forces of Australia are under the control of the State Governments, but their members perform certain functions for the Commonwealth Government, such as acting as aliens registration officers and, concurrently with Australian Federal Police and other Commonwealth Officers, policing various Commonwealth Acts and Regulations.

Women police perform special duties at places where young women and girls are subject to moral danger, control traffic at school crossings and lecture school children on road safety as well as normal police duties.

Australian Federal Police

The Australian Federal Police was formed in October 1979 by the incorporation of members of the former Commonwealth Police (*see* previous editions of Year Book Australia) with the Australian Capital Territory Police. It is the principal agency for the enforcement of the laws passed by the Commonwealth Parliament; it performs normal police functions in the Australian Capital Territory and it is also responsible for the protection of Commonwealth Government property and interests at various buildings and establishments under the control of the Commonwealth Government. This force co-ordinates the work of other investigation and law enforcement agencies and acts on behalf of the United Nations Organisation for the suppression of obscene literature and trafficking in women.

Under the control of the force is the Australian Police College at Manly, New South Wales, which provides training for officers of various police forces and other agencies in Australia and New Zealand. The force has its Head Office in Canberra and District Offices in each capital city.

The strength of the police forces in Australia and the ranks of the personnel involved in the police forces in Australia are shown in the following table.

POLICE FORCES(a)

At 30 June—	C'wealth(b)	N.S.W.	Vic	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.(b)
1978	1,912	8,905	6,477	4,233	3,351	2,490	1,030	470	573
1979	1,900	9,063	7,463	4,132	3,621	2,558	1,132	539	581
1980	2,614	9,400	7,603	n.a.	3,423	2,643	1,041	534	(b)
Comprising in 1980—									
Executive officers . . .	26	57	63		44	39	10	10	
Inspectors	94	245	295	n.a.	64	68	53	22	
Sergeants	382	2,320	1,898		478	601	164	115	
Constables(a)	2,112	6,778	5,347		2,837	1,935	814	387	

(a) Includes trainees, cadets and probationary constables in all States and Territories. (b) From October 1979 the Commonwealth Police and Australian Capital Territory Police have been combined in the Australian Federal Police.

FEDERAL COURTS

The judicial power of the Commonwealth is vested in the High Court of Australia, in the Federal courts created by Parliament and in the State courts invested by Parliament with Federal jurisdiction. The nature and extent of the judicial powers of the Commonwealth are prescribed by Chapter III of the Australian Constitution. For details of Commonwealth of Australia Constitution Act *see* Year Book No. 62, pages 7–24.

High Court of Australia

The High Court consists of a Chief Justice and six other Justices, and has its principal seat in Canberra. However, sittings are held in every State capital as the need arises.

The Australian Constitution itself confers original jurisdiction on the High Court in all matters:

- (i) arising under any treaty;
- (ii) affecting consuls or other representatives of other countries;
- (iii) in which the Commonwealth of Australia, or a person suing or being sued on behalf of the Commonwealth of Australia, is a party;
- (iv) between States, or between residents of different States, or between a State and resident of another State;
- (v) in which a writ of mandamus or prohibition, or an injunction, is sought against an officer of the Commonwealth of Australia.

In addition, the Federal Parliament may, under the Constitution, confer additional original jurisdiction on the High Court in certain classes of matters. The Court currently has original jurisdiction in all matters arising under the Constitution or involving its interpretation, in trials of indictable offences against the laws of the Commonwealth, and in respect of certain other matters specified in various laws made by the Parliament.

The High Court's jurisdiction is made exclusive of the jurisdiction of State courts in:

- (i) matters arising directly under any treaty;
- (ii) suits between States or between persons suing or being sued on behalf of different States, or between a State and a person suing or being sued on behalf of another State;
- (iii) suits by the Commonwealth of Australia or any person suing on behalf of the Commonwealth of Australia against a State, or any person being sued on behalf of a State;
- (iv) suits by a State, or any person suing on behalf of a State against the Commonwealth of Australia or any person being sued on behalf of the Commonwealth of Australia;
- (v) matters in which a writ of mandamus or prohibition is sought against an officer of the Commonwealth of Australia or a Federal Court.

The High Court's exclusive jurisdiction no longer includes matters involving the limits *inter se* of the constitutional powers of the Commonwealth and those of the States. Where the High Court has concurrent jurisdiction, it may remit a matter commenced in the High Court to a court of concurrent jurisdiction and remove a matter commenced in another such court into the High Court.

Under the Constitution the High Court has jurisdiction, with such exceptions and subject to such regulations as the Federal Parliament prescribes, to hear and determine appeals from all judgments, decrees, orders and sentences of:

- (i) any Justice or Justices exercising the original jurisdiction of the High Court,
- (ii) any other Federal court or court exercising Federal jurisdiction, and
- (iii) the Supreme Court or other court of any State from which appeal lay to the Privy Council at the establishment of the Commonwealth of Australia.

Subject to the exception mentioned below, an appeal may be brought as of right from a final judgment of a Full Court of a State Supreme Court where the interpretation of the Australian Constitution is involved; from judgments for the sum of \$20,000 or upwards; and from judgments in any proceedings in which the matter in issue amounts to or is of the value of \$20,000 or upwards or which involve a claim, demand or question relating to any property or civil right amounting to or of the value of \$20,000 or upwards. The exception to the generality of this statement is that an appeal on a ground relating to quantum of damages for death or personal injury lies only with special leave of the High Court. In all other cases in which the High Court has appellate jurisdiction, appeals lie only by special leave of the Court.

Appeal to the Privy Council

In 1968 the Federal Parliament passed an Act, which came into operation on 1 September 1968, restricting appeals to the Privy Council. Under the Act no appeal can be taken to the Privy Council for a judgment of the Supreme Court of any Territory or a Federal court other than the High Court.

Until 1975, special leave of the Privy Council to appeal from the High Court could be sought only in matters that came to the High Court on appeal from the Supreme Court of a State exercising jurisdiction not derived from Federal legislation, and which did not raise in the High Court any question of the application or interpretation of the Australian Constitution, or of Federal or Territory legislation. In 1975 the right to apply for special leave in these cases was removed. An exception to the generality of the foregoing is that under the Australian Constitution an appeal lies to the Privy Council in cases involving the powers of the Commonwealth vis-a-vis the States if the High Court certifies that the question is one that ought to be determined by the Privy Council. No such certificate has in fact been granted since 1913.

HIGH COURT OF AUSTRALIA TRANSACTIONS

	1977	1978	1979
<i>Original jurisdiction</i>			
Number of writs issued	148	88	112
Number of matters heard	20	4	6
<i>Appellate jurisdiction</i>			
Number of appeals filed			
by plaintiff as appellant	29	31	35
by defendant as appellant	25	26	39
Number of applications for leave/special leave to appeal:			
filed	108	141	154
allowed	42	29	31
refused	41	46	75
Number of judgments			
reserved	86	79	81
oral	66	26	5
<i>Result of hearings</i>			
Verdict/judgments			
plaintiff/appellant	67	25	24
defendant/respondent	60	74	83
Otherwise disposed of	10	24	17
<i>Miscellaneous</i>			
Number of			
matters remitted to State Courts	46	19	14
matters removed into High Court under the Judiciary Act	5	13	15
demurrers set down and heard	5	2	—
cases stated for opinion of a Full Court	4	1	3
<i>Amount of fees collected</i>	\$16,637	\$34,803	\$32,733

Federal Court of Australia

The Federal Court of Australia was created in 1976 and commenced to exercise jurisdiction on 1 February 1977.

For the purposes of its organisation and business, the Federal Court of Australia consists of two Divisions: an Industrial Division and a General Division. Matters arising under the *Conciliation and Arbitration Act* 1904 and under the *Stevedoring Industry Act* 1956 are dealt with in the Industrial Division. All other matters are dealt with in the General Division of the Court. The Federal Court of Australia sits as required in each State and in the Australian Capital Territory and the Northern Territory.

The *Federal Court of Australia Act* 1976 provides that the Court has such original jurisdiction as is invested in it by laws made by the Federal Parliament.

In respect of matters the hearing of which commenced on or after 1 February 1977, the Court's original jurisdiction includes that formerly exercised by the Federal Court of Bankruptcy and the Australian Industrial Court. Further, original jurisdiction has been conferred by a number of Acts, the most significant being the *Federal Court of Australia (Consequential Provisions) Act* 1976.

The Federal Court of Australia has appellate jurisdiction with respect to judgments of the Court constituted by a single judge; judgments of the Supreme Courts of the Territories; and, in certain circumstances provided for by legislation, with respect to judgments of State courts other than those of the Full Court of a State Supreme Court (e.g. *Patents Act* 1966, *Trade Marks Act* 1955, *Bankruptcy Act* 1966, *Income Tax Assessment Act* 1936).

Australian Industrial Court and Federal Court of Bankruptcy

The hearing of matters which had commenced in these courts at 1 February 1977 continues to be dealt with by these Courts. Subject to this, the respective jurisdictions formerly exercised by these Courts is now vested in the Federal Court of Australia and each of the Courts is to be abolished when there ceases to be a person holding office as a Judge of the Court.

Family Law

The *Family Law Act* 1975 commenced operation on 5 January 1976. It introduced a new law dealing with human problems in marriage, viz. the custody and welfare of the children, divorce, maintenance and the split up of property of the marriage.

The law is administered by the Family Court of Australia and by certain other courts in the States and Territories. A State Family Court has been established in Western Australia to administer family law in that State.

Under the Act, great emphasis is placed on the counselling services available through the family courts to persons involved in proceedings and to any persons who have encountered marriage problems. It is not necessary to start proceedings to make use of these services.

The Act provides that there is only one ground for divorce—that of irretrievable breakdown of a marriage. Irretrievable breakdown of a marriage is established under the law if the husband and wife have separated and have lived apart from each other for 12 months and there is no reasonable likelihood of reconciliation. The main change made by the Act is that fault is no longer taken into account as a ground for divorce.

Statistics relating to divorce are shown in Chapter 6 of this Year Book.

The Family Court of Australia

Applications can be made to the Family Court of Australia for custody and maintenance even if a divorce is not sought. People may approach the Court for counselling (and help) with regard to their marital problems whether or not they are contemplating proceedings for divorce or other relief.

The judges of the Family Court are chosen because of their suitability to deal with matters of family law by reason of their training, experience and personality. They do not wear wigs and gowns and have a competent back-up staff attached to the Court to assist them.

In dealing with a marriage problem, the Family Court is guided by the following principles:

- the need to preserve and protect the institution of marriage as the union of a man and a woman to the exclusion of all others voluntarily entered into for life;
- the need to give the widest possible protection and assistance to the family as the natural and fundamental group unit of society, particularly while it is responsible for the care and education of dependent children;
- the need to protect the rights of children and to promote their welfare; and
- the means available for assisting parties to a marriage to consider reconciliation or the improvement of their relationship to each other and to the children of the marriage.

The same principles apply to all courts exercising jurisdiction under the Family Law Act. Proceedings under the Act in the Family Court are heard in private, and no publicity about any proceedings under the Act is permitted.

Counselling

The Family Court aims to be a 'helping' court. A Principal Director of Court Counselling and a staff of court counsellors are attached to the Court to help parties of a marriage settle their problems. Their help is available to parties who are not even contemplating divorce or other proceedings, but who may need counselling assistance. These services complement those already provided by voluntary marriage counselling agencies. People may approach the Court counselling service directly—in person, in writing or by telephone—or through a legal advisor.

Children

The Family Court has a special task of protecting and promoting the welfare and rights of dependent children. The paramount consideration guiding the Court in all custody proceedings is the welfare of the children. Further, a divorce decree will not become effective unless the Court is satisfied that proper arrangements have been made by parties for the welfare of their children.

A feature of the Act is that, in the absence of any court order, both parents of a child have joint custody of the child as a matter of law. However, one parent can ask the Court for sole custody of a child. In disputes over custody, the child may be separately represented. The wishes of children over 14 in such disputes must be taken into account unless there are special circumstances.

Maintenance

The right to maintenance under the Act is based on the needs of the party seeking it and the ability of the other party to pay. There are specific matters for the Court to consider when it is dealing with maintenance applications. These include:

- the age and state of health of each of the parties;
- the income, property and financial resources of each of the parties and their financial obligations;
- whether either party is entitled to a pension or superannuation;
- the length of the marriage and what is an appropriate standard of living for each party;
- whether persons seeking maintenance have to care for children;
- the extent to which a marriage has affected the earning capacity of the marriage partners; and
- the possibility of the persons concerned taking on training courses or further educational courses to improve employment prospects.

Both parties are liable to maintain their children according to their respective means and the Court is guided by similar considerations in deciding what order to make.

Matrimonial Property

The Court has power to settle disputes about the family assets, including the power to order a transfer of legal interests in property. When dealing with these disputes, the Court considers the interest each of the parties has in the property and the contribution made during the marriage. The Act directs the Court to look at the financial contributions made by the parties and at the contribution made by either party in the capacity of homemaker or parent.

Legal Assistance

Specific provision is made in the Act for legal assistance to be given by the Australian Legal Aid Office to persons who are assessed to be unable to afford legal representation.

The Court has pamphlets printed in English, Arabic, Finnish, German, Italian, Serbo-Croat, Spanish and Turkish to explain the operation of the new Family Law.

Legal Aid

Australian Legal Aid Office

The Australian Legal Aid Office was established by the Australian Government in July 1973. It provides a general problem-solving service of legal advice for persons with an element of need. Each person seeking help from the Office is seen by a lawyer, the problem is identified and advice is given. Further assistance, including assistance in litigation, is available in matters arising under Federal law, including family law, to all persons, and in matters arising under State or Federal law to persons for whom the Australian Government has a special responsibility such as those in receipt of social services, Aborigines, ex-servicemen, students and newcomers to Australia. The assistance is provided by lawyers of the Office or by referral to private legal practitioners.

The criteria for the provision of further assistance are the merit of the applicant's case and the financial position of the applicant, i.e. whether he satisfies the means and needs test of the Office. In considering the merits, regard is had to all the circumstances, particularly to any advantage the applicant might gain from the provision of assistance and any disadvantage he might suffer if assistance is refused, and the likelihood that the proceedings will be terminated by a decision, settlement or otherwise so as to result in a proper and just advantage to the applicant. The means and needs test is the inability of the applicant to afford the cost of representation in the particular case. A system of contributions by applicants towards the cost of assistance has been in operation since August 1975.

The Office operates in New South Wales, Victoria, Tasmania and the Northern Territory.

The policy of the Commonwealth Government is for State and Territory legal aid commissions to be established which will absorb the functions of the Australian Legal Aid Office throughout Australia. Commissions have commenced operations in New South Wales, Queensland, South Australia, Western Australia and the Australian Capital Territory, and are expected to do so in Victoria shortly.

Administration of the Law

There have been a number of important developments in the field of the administration of the law:

Australian Law Reform Commission

In 1973 the Australian Government established the Australian Law Reform Commission to reform, modernise and simplify Australia's laws. The Attorney-General makes a reference to the Commission on matters requiring attention and, after examination and study, the Commission reports its findings to the Federal Parliament. The Commission has worked in close association with State law reform bodies and with similar agencies overseas.

Since starting formal operations at the beginning of 1975, the Commission has undertaken law reform studies in criminal investigation procedures; complaints against the police; alcohol, drugs, and driving; the legal protection of privacy; defamation; consumers in debt; insurance contract law; the law on organ transplants; the use of Aboriginal customary law in the Australian legal system; the right of access to civil proceedings; the provision of the *Lands Acquisition Act 1955*; and sentencing submissions. Legislative action has been initiated following reports on some of these references.

Administrative Appeals Tribunal

The Administrative Appeals Tribunal was established by the *Administrative Appeals Tribunal Act 1975* and came into operation on 1 July 1976. The function of the Tribunal is to review on the merits decisions made in the exercise of statutory powers where jurisdiction has been specifically vested in the Tribunal by statute. The Tribunal now has jurisdiction in respect of decisions made under over 70 statutes. Further additions to the Tribunal's jurisdiction are made from time to time.

The Administrative Review Council was also established under the Administrative Appeals Tribunal Act. The Council's functions include reviewing decision-making processes and the practices and procedures of administrative review bodies, such as tribunals or courts. The Council may make recommendations to the Attorney-General on any improvements in those areas that it considers might be made.

Administrative Decisions (Judicial Review) Act 1977

The *Administrative Decisions (Judicial Review) Act 1977*, which has yet to be proclaimed, provides judicial review in the Federal Court of Australia of administrative actions under statutes to which the Act applies. The Court's role is limited to reviewing the lawfulness of the action in question where application is made by a person aggrieved thereby. A person entitled to seek judicial review in respect of an administrative decision may seek a statement of reasons for the decision from the decision-maker.

Commonwealth Ombudsman

The Office of the Commonwealth Ombudsman was established in mid-1977. The Ombudsman is empowered to investigate complaints concerning the administrative actions of Commonwealth Government Departments, statutory bodies and other authorities. Where the Ombudsman is of the opinion, after an investigation is completed, that an administrative action involved maladministration he is required to report to the body concerned and may include in his report any recommendations he thinks fit to make. In the event of a failure to comply with a recommendation contained in a report made by the Ombudsman, the Ombudsman may report to the Prime Minister and to the Parliament.

Bankruptcy

For a description of the provisions of the *Bankruptcy Act 1966*, see Year Book No. 55, Pages 586-7. The Bankruptcy Act was amended in 1970 to remove any obstacle the Act might present to the operation of compositions or schemes of arrangement entered into under State or Territory legislation providing assistance to farmers in respect of their debts.

The following table shows the number of bankruptcies of the various types together with the disclosed assets and liabilities of the debtors. Details for each State are published in the Annual Report by the Minister for Consumer and Business Affairs on the operation of the Bankruptcy Act.

BANKRUPTCY PROCEEDINGS: AUSTRALIA

Year		<i>Bankruptcies and Orders for administration of deceased debtors' estates</i>	<i>Compositions</i>	<i>Deeds of assignment</i>	<i>Deeds of arrangement</i>	<i>Total</i>
1974-75	Number	2,061	63	128	80	2,332
	Liabilities \$'000	33,788	1,693	15,776	2,742	53,999
	Assets \$'000	13,529	1,069	5,129	2,034	21,761
1975-76	Number	1,900	67	118	92	2,177
	Liabilities \$'000	48,829	8,969	6,374	15,823	79,995
	Assets \$'000	14,188	490	3,864	11,667	30,209
1976-77	Number	2,196	72	109	75	2,452
	Liabilities \$'000	48,862	6,996	6,409	15,130	77,397
	Assets \$'000	20,936	723	4,389	9,947	35,995
1977-78	Number	3,134	75	163	89	3,461
	Liabilities \$'000	74,723	12,061	9,551	6,042	102,377
	Assets \$'000	27,524	646	5,152	2,521	35,843
1978-79	Number	3,857	137	255	168	4,417
	Liabilities \$'000	93,388	5,460	14,554	14,249	127,651
	Assets \$'000	25,394	1,184	6,690	6,073	39,341
1979-80	Number	4,953	176	259	193	5,581
	Liabilities \$'000	110,543	10,094	15,095	13,115	148,847
	Assets \$'000	37,169	2,977	6,709	4,522	51,377

Patents, Trade Marks and Designs

Patents

Patents for inventions are granted under the *Patents Act* 1952, which applies to Australia and to the Territory of Norfolk Island and which is administered by the Commissioner of Patents.

Either a 'petty patent' or a 'standard patent' for an invention may be applied for and granted under the Patents Act. A 'standard' patent has a term of up to sixteen years, while a 'petty' patent has a term of up to six years.

PATENTS: AUSTRALIA

	1975	1976	1977	1978	1979
Total applications	14,082	14,117	14,246	14,131	14,640
Applications claiming priority of date under convention arrangements	8,483	8,666	8,675	8,542	8,656
Petty patents lodged					57
Complete specifications lodged	10,929	11,003	11,087	10,910	10,032
Complete specifications accepted	11,473	10,850	9,911	8,445	8,761
Letters patent sealed	12,161	11,074	9,626	9,038	6,513
Letters patent renewed	51,034	51,028	57,850	56,878	59,455
Letters patent ceased	9,895	10,052	9,147	10,598	2,348

Trade marks and designs

The *Trade Marks Act* 1955 and the *Designs Act* 1906 are also administered by the Commissioner of Patents. These Acts provide for the registration of trade marks in respect of goods and services, and the registration of industrial designs.

TRADE MARKS AND DESIGNS: AUSTRALIA

	1975	1976	1977	1978	1979
Trade marks—					
Received	9,046	10,195	10,888	11,001	16,127
Registered	7,087	4,941	4,881	4,243	4,437
Designs—					
Received	2,105	2,571	2,695	3,170	3,127
Registered	1,733	1,519	2,290	2,316	1,892

Copyright

Copyright is regulated by the Commonwealth *Copyright Act* 1968–1973, which came into force on 1 May 1969. On that date Australia ratified its adherence to the Brussels revision of the Berne Copyright Convention and to the Universal Copyright Convention whereby citizens of member countries are accorded protection by complying with the convention formality requiring proprietors to place on their works the symbol © together with their name and the year of first publication in such a manner and location as to give reasonable notice of their claim of copyright in the works so identified. The new legislation contains no provision for the registration of copyright, and the Copyright Office ceased to exist on 1 May 1969. Copyright is administered by the Attorney-General's Department.

CHAPTER 12

EDUCATION

State and Commonwealth Government responsibilities in education

Under the Australian Constitution, education is a responsibility of State Governments, although the Commonwealth Government is responsible for education in the Australian Capital Territory, Norfolk Island, Christmas Island and the Cocos (Keeling) Islands. On 1 July 1979, responsibility for education in the Northern Territory passed from the Commonwealth Government to the Northern Territory Government.

The State Governments administer their own systems of primary, secondary, and technical education through government departments responsible to State Ministers. In each State except New South Wales and South Australia, a single Education Department is responsible for these three levels of education. In New South Wales and South Australia the Education Department concentrates on primary and secondary education and a separate department is responsible solely for technical and further education. The Commonwealth and Northern Territory Governments provide similar education services in the Australian Capital Territory and the Northern Territory. Universities and colleges of advanced education in Australia are autonomous institutions established under acts of the appropriate parliament.

Detailed information on the education systems of the States may be found in the respective State year books. Chapter 27 of this Year Book provides details of the situation in the Territories.

General characteristics of schools

Compulsory education

School attendance is compulsory throughout Australia between the ages of 6 and 15 years (16 years in Tasmania), but many States accept children below the age of 6. In all States and Territories the opportunity for four year olds to attend pre-school is becoming more widely available.

The Education legislation in each State and Territory requires that all children between the prescribed ages must attend either a government school or some other recognised educational institution. In 1979, over 650,000 students attended non-government schools, of which about 80 per cent attended Roman Catholic schools. The organisation of Roman Catholic primary schools is largely diocesan; Roman Catholic secondary schools are either diocesan or administered by religious orders. Most other non-government schools are under the auspices of, or are actually run by, other religious denominations. Non-government schools must meet certain standards determined by the States or Territories in which they are located. In most States and Territories they cannot be opened, or continue to operate, unless they are registered. Registration is normally dependent upon certification that the school has satisfactory premises and provides regular and efficient instruction.

Funding of schools

Education at all government primary and secondary schools in Australia is free. Each State provides the major portion of funds for its own school system from its general revenue funds. The other source of funds is the Commonwealth Government's Schools Commission. The non-government schools draw funds from private sources and also receive Government financial assistance (both State and Commonwealth). For further details, *see* Expenditure on education, page 267.

School organisation and operation

Students in Australia generally proceed from a primary school to a secondary school within their own locality. Primary schools and secondary schools are usually separate institutions. Pre-schools are also normally separate institutions, although some are attached to or near the local primary school. In small towns and communities there are sometimes area or central schools which provide both primary and some secondary schooling, though not necessarily to Year 12 level. In Tasmania and the Australian Capital Territory, the final two years of secondary schooling in the Government system are provided at separate colleges.

The majority of government schools in Australia are comprehensive and co-educational. All schools with both primary and secondary enrolments (mainly area or district schools in rural areas), all but a few primary schools, and over four-fifths of secondary schools are co-educational. Under the present policies of school authorities, it is unlikely that any new government single-sex schools will be established.

The situation in non-government schools is different. Approximately two-thirds of non-government secondary schools, and about one half of those with primary schools attached to them, are single-sex. This situation is changing, with the number of single-sex schools decreasing in recent years.

Australian schools generally operate between approximately 9 a.m. and 3 p.m. for three terms between early February and mid-December. Most schools are constructed around the traditional classroom, although there is a trend towards the provision of some open plan or flexible learning spaces. Schools usually also provide library and sporting facilities.

Generally, schools in Australia now have a considerable degree of autonomy. In recent years most State education departments have established regional administrations which are responsible for matters such as planning school buildings and deploying staff, and a central curriculum unit which provides general guidelines on course planning. In some systems these guidelines are more prescriptive than in others. In general, individual schools offer options and determine teaching and learning approaches within the guidelines and within the limitations of available resources and the aptitudes and interests of their students. Usually parent associations are attached to each school, and there has been encouragement of greater community participation in general decision-making at school level through representation on school councils and boards which have been established in some systems to take some responsibility for school planning and policy formulation. Some systems also encourage school-based curriculum development and, in the case of the Australian Capital Territory, school-based evaluation programs.

Schools usually provide educational or vocational counselling through an attached or visiting teacher. Many schools also provide special facilities or teachers to assist migrant children, especially where the schools are located in areas of high migrant density. In all States and the Northern Territory there are special Commonwealth funded education projects designed to assist Aboriginal school children. Notable among these is the widespread use of Aboriginal teacher aides, and bilingual programs in a number of Aboriginal communities where the children's first language is an Aboriginal language.

Pre-school education

Pre-schools were first established by voluntary organisations and a large number are still operated by them with State and Commonwealth financial assistance. Departments of Education in four States and the two Territories are responsible for the administration of pre-school centres. In New South Wales the Department of Education shares the responsibility with welfare authorities, and in Victoria the Department of Health has the complete responsibility for pre-school services.

In recent years most States have announced a commitment to provide pre-school education for all children and therefore Government pre-schools have been increasing more rapidly than those provided by voluntary organisations. In addition, special Commonwealth Government funding has helped to promote a considerable expansion of pre-school facilities for Aboriginal children throughout Australia.

There is no prescribed pre-school curriculum but some States have developed guidelines where the pre-school centre is an integral part of the primary school system. Most teachers working in pre-school centres provide a play-based program with some emphasis on the development of concepts associated with language, science and music. In most States pre-schools operate on a half-day sessional basis and thus accommodate two and sometimes three different groups of children each week.

Primary and secondary education

A generalised description of the basic subjects and teaching methods at each level follows.

Primary schools

In the lower primary years the main emphasis is on the development of basic language and literacy skills, simple arithmetic, moral and social education, health training and some creative activities.

In the upper primary years there is development of the skills learned in the earlier years. English, mathematics, social studies, science, music, art and craft, physical education and health are studied. There are also optional subjects such as religious instruction and, in some schools, foreign languages and instrumental music.

Students in Australian primary schools usually have the one class teacher for all subjects, though in schools where open plan learning styles have been adopted, the method of team teaching is often practised. Promotion is generally annual, with peers being promoted on age not achievement, though there has been increasing interest in multi-age grouping.

Secondary schools

In some systems the first one or two years of secondary school consist of a general program which is followed by all students, although there may be some electives. In later years a basic core of subjects is retained with students being able to select additional optional subjects. In other systems students select options from the beginning of secondary school.

The core subjects in all systems are English, mathematics, science and, usually, a humanities or social science subject. Optional subjects may include a foreign language, a further humanities or social science subject, commerce, art, music, home arts and craft, a manual arts subject, or agriculture. Some schools offer optional courses in subjects such as consumer education, conversational foreign languages, shorthand, typewriting, road safety, drama and leisure-time activities.

In senior secondary years a wider range of options is available in the larger schools and there is an increasing trend towards encouraging individual schools to develop courses suited to the needs and interests of their students, subject to accreditation and moderation procedures.

Victoria is the only State which retains a system of secondary technical education. These schools offer a wide range of elective technical subjects. In the Northern Territory three Aboriginal residential colleges assist Aboriginals to participate in secondary education.

Students in Australian secondary schools generally have different teachers for each separate subject area, though, like primary schools, variations may occur where open planned or more flexible methods have been adopted. Promotion is, again, generally chronological, but students may be grouped according to ability after an initial period in unstreamed classes.

Examinations and assessment at each level are carried out by individual schools except in Year 12 in the systems which have retained external examinations at Year 12 level. Students attaining the minimum school leaving age may leave school and seek employment, or enrol in a vocationally oriented course in a technical and further education (TAFE) institution or a private business college. For many TAFE courses, completion of Year 10 of secondary school is a minimum entry requirement. For those continuing to the end of secondary school (Year 12), opportunities for further study are available in TAFE institutions, universities, colleges of advanced education and other post-school institutions. The latter include non-government teachers colleges and a few single purpose institutions such as the Australian Film and Television School, the Australian Maritime College and the National Institute of Dramatic Art.

Students' eligibility for entry to universities and colleges of advanced education is assessed during, or at the end of, the final two years of secondary schooling. In Victoria the standard basis for admission to higher education is public examination results. Four other States and the Northern Territory use different combinations of school assessment and public examinations. In Queensland and the Australian Capital Territory eligibility to enter higher education is determined from moderated and standardised school assessments. Several education systems are currently reviewing their senior secondary school assessment procedures.

Other schooling arrangements

Children may be exempted from the requirement of compulsory attendance if they live too far from a school or suffer a physical disability. These children usually receive correspondence tuition. Special schools are available in larger centres for socially, physically and mentally handicapped children in cases where they are not catered for in special or regular classes in ordinary schools.

In addition to correspondence tuition there are other provisions for children in isolated areas. Schools of the Air operate in New South Wales, South Australia, Queensland, Western Australia and the Northern Territory. Schooling for the children of Aboriginal groups in remote areas of the Northern Territory is conducted by Aboriginal teaching assistants supported by visiting teachers from established schools. Increasing numbers of Aboriginals are now being trained as fully qualified teachers. Special education is provided by State Governments, although in all States and particularly in New South Wales, Queensland and Victoria, parents have formed voluntary organisations to establish additional schools catering for their children's special needs. The Commonwealth Government, through its Schools Commission, provides funds to State authorities to assist in the upgrading of special education facilities.

Boarding facilities are available at some non-government schools in the larger towns and cities. Some government schools, in particular those catering for special groups such as Aboriginals, have residential hostels close by.

Post-secondary education

Technical and further education (TAFE)

Like primary and secondary schools, TAFE institutions operate from early February to mid-December, in either three terms or two semesters depending on the institution.

The major part of technical and further education in Australia is provided in government administered institutions variously known as colleges, schools, or centres of technical and further education. There is also some TAFE provision in some colleges of advanced education, agricultural colleges and adult education authorities. These institutions are spread widely throughout Australia in both metropolitan and country areas. They vary greatly in size and in the scope of their educational provisions, though the largest tend to be located in metropolitan regions.

Each of the States provides the bulk of the finance for its own institutions. The Commonwealth Government provides supplementary funds to the States on the basis of recommendations from the Tertiary Education Commission.

Government TAFE institutions offer an extremely wide range of vocational and non-vocational courses. The majority of students are part-time and employed. There are also large numbers of other vocational courses for persons not indentured in a trade. These include many certificate courses for prospective technicians and persons engaged in para-professional occupations, particularly in the manufacturing and service industries, and a wide range of courses designed to supplement previous training or to provide specialised instruction in particular aspects of job skills. Other courses offered are those providing pre-vocational training to persons prior to their entry into employment, and preparatory or bridging instruction to persons whose educational experience is not sufficient to permit direct entry to a chosen vocational course. Government TAFE institutions are also major providers of adult education courses of the personal interest, leisure or general enrichment kind.

There are some non-government bodies which offer technical and further education of a non-apprenticeship nature. Business colleges offer courses in secretarial studies, while agencies such as the Workers Educational Association and a range of voluntary groups help meet adult education needs in the community.

Colleges of advanced education

Colleges of advanced education normally operate over three terms or two semesters, beginning in early to late February and running to mid-December. Students commencing courses will have completed a full secondary education, or will have demonstrated that they have a high probability of successfully completing a course. There are quotas on new enrolments at many of the larger colleges. Although there are usually provisions for mature-age entry, the majority of students proceed straight from school. Approximately 53 per cent of students were enrolled as full-time students in 1979.

In 1979, there were seventy-one colleges of advanced education. Some are large diversified or multi-vocational institutes, others are small single-purpose colleges. Some colleges specialise in agriculture, art or teacher education. About one third of colleges have enrolments below 1,000 students. All colleges are funded by the Commonwealth Government. Advanced education level courses are also provided by some TAFE institutions.

The principal purpose of the colleges is to provide tertiary education oriented towards practical training and industrial and social needs. The colleges aim to equip students so that immediately after graduation they may play an effective role in commerce, industry, the Public Service and the Arts. The colleges emphasise undergraduate teaching more than research, although some colleges also offer post-graduate level courses, either at the diploma or masters level. Most colleges have a commitment to part-time study, and many offer 'sandwich' courses, which provide a period of full-time study with associated periods of full-time employment. Some colleges also offer external courses.

The duration of a basic undergraduate course in a college of advanced education is two to three full-time years, at the conclusion of which an Associate Diploma, a Diploma or a Bachelor Degree is awarded. A great variety of courses is offered by colleges of advanced education, embracing such areas as applied science, teacher education, liberal arts, business and secretarial studies and para-medical studies.

Although teaching in colleges of advanced education is more vocationally-oriented and less theoretical or academic than in universities, the system of tuition is similar. Lectures, tutorials and seminars are organised by the institution in the subjects offered. Normally, assessment of a student's progress is made by examination and/or completion of prescribed coursework.

Halls of residence are provided at some colleges of advanced education, principally those located in country areas. These can accommodate some, but not usually all, students enrolled at those institutions.

Universities

The university year in Australia normally runs from late February or early March to mid-December over three terms or two semesters depending on the institution. Students commencing courses will have completed a full secondary education, though most universities have some provisions for admitting other persons who can demonstrate that they have a high probability of successfully completing a course. There are quotas on new enrolments in most faculties in Australian universities. Although there are usually provisions for mature-age entry, the majority of students proceed straight from school. Sixty-two per cent of students were enrolled as full-time students in 1979.

There are nineteen universities in Australia, most of which are located in the capital cities. Universities are autonomous institutions established under Acts of the appropriate parliament and financed by the Commonwealth Government. The basic undergraduate course in most disciplines is three or four full-time years in duration, at the conclusion of which a bachelor degree is awarded. A further one to two years of full-time study is required for a masters degree, and three to five years for a doctoral degree. Universities also offer post-graduate diploma courses in some disciplines. All universities offer full-time and part-time courses, and some offer external studies. As well as providing undergraduate courses, Australian universities are centres of post-graduate study and research. Some universities have institutes or units involved exclusively in research and/or post-graduate teaching. In 1979, over 12 per cent of university students were proceeding to higher degrees.

Courses at Australian universities are normally organised in faculties or schools, and students generally elect to study in a number of subject areas, or departments, within a faculty or school. Universities will generally offer some, but not all, of the following courses of study: agriculture, architecture, arts, dentistry, economics, education, engineering, law, medicine, music, science, and veterinary science.

The system of tuition in universities is normally by means of lectures, tutorials and seminars organised by the institution in the subjects offered. Normally, assessment of a student's progress is made by examination and/or completion of prescribed coursework. Theses are required for many post-graduate degrees.

Most universities have halls of residence on the campus which accommodate some, but not all, of the students currently enrolled. Student organisations on campus provide a wide range of sporting and social facilities for students.

Teacher education

The majority of teachers are educated in colleges of advanced education, but a substantial number of secondary teachers and a few primary teachers receive their pre-service education in a university. A few non-government teachers colleges, mostly operated by religious denominations, educate some of the teachers for non-government schools. The majority of pre-school and primary trainee-teachers undertake courses of three years' duration before commencing teaching. Most secondary trainee-teachers undertake a four year course.

The normal entry requirement for teacher education is determined by the matriculation requirements of individual universities and colleges of advanced education.

A number of teacher education scholarships or bursaries are offered by some State education authorities and, in the Australian Capital Territory and the Northern Territory, by the Commonwealth Teaching Service on a competitive basis. The proportion of students in receipt of such scholarships is declining, while the proportion relying on private finance or means-tested allowances provided by the Commonwealth Government is increasing.

The content of pre-service teacher education is determined by individual universities and colleges of advanced education. Options are available to students but, generally, the three year course for a pre-school or primary trainee-teacher includes history and principles of education, general and special methods of teaching, early childhood development and general educational psychology, as well as the subjects they will be teaching. Practice teaching is required.

Secondary trainee-teachers are generally expected to specialise in two or three subjects. These may be studied as part of an education degree in either a university or a college of advanced education, or as part of another degree to be followed by a post-graduate diploma in education. As part of their pre-service education, secondary trainee-teachers generally take courses in the history and principles of education, comparative education, educational psychology and teaching methods. Practice teaching comprises part of the courses.

All education systems provide opportunities for in-service training. Generally, there are two types of in-service training: assistance to teachers to upgrade their formal qualifications by providing various forms of study leave or study assistance; and 'less formal' in-service education through the organisation of a large number of short-term workshops, seminars and conferences. In each State many of these 'less

formal' activities are co-ordinated by a joint committee of representatives of teachers and of government and non-government schools. Also with the assistance of funds from the State Government and the Schools Commission, teachers directly organise many of their own in-service education activities through a number of teachers' centres in each State.

Migrant education

The Commonwealth Government has responsibility for migrant education for which State Governments are also contributing resources, particularly in school level programs. Opportunities are provided for school-age and adult migrants from non-English speaking backgrounds to learn the English language and to assist in their integration into the Australian community.

Child migrant education

In most States migrant children are taught English as a second language in 'withdrawal' classes, where migrant children are brought together for certain periods a week for the teaching of basic communication skills in English. States are increasingly adopting other approaches to teaching English as a second language, including bilingual programs and language assistance within the general classroom. Generally, there has been recognition of the need to provide multicultural education which acknowledges migrant identity and self-esteem in the general framework of Australian life.

Migrant and multicultural education at the primary and secondary levels is funded by the Schools Commission, which also provides supplementary financial assistance for schools of high migrant density and in-service training of teachers of migrant children. Payments are made to government and non-government education authorities in each State who are responsible for determining priorities and allocating funds.

Adult migrant education

The *Adult Migrant Education Program* is a national program, funded and co-ordinated by the Commonwealth Department of Immigration and Ethnic Affairs. It aims to help adult migrants and refugees from non-English speaking backgrounds learn English and obtain essential information about Australia and Australian society.

The program consists of a variety of full and part-time courses and classes including special arrangements such as English classes at the work place, the Home Tutor Scheme and English by radio and television. Enrolments in the program have increased in recent years and reached just over 112,000 in 1978-79.

For the most part the courses and classes are conducted by State Governments through their Adult Migrant Education Services or Branches. A number of tertiary institutions and some community organisations also participate in the program through activities funded by the Commonwealth. These courses are available at a number of locations including migrant education centres leased by the Commonwealth in each mainland capital city, education centres in migrant hostels and other community and education facilities in suburban and some country areas.

Financial assistance

Primary and secondary education is free in government schools in all States and Territories although, particularly in high schools, nominal fees may be charged for the hire of textbooks and other school equipment. Most State Governments provide financial assistance to parents for educational expenses such as these as well as for transport to and from school, and various forms of scholarship, bursary, boarding and clothing allowances. Many of these forms of assistance are specifically intended to assist low income families.

Post-secondary education (in institutions of technical and further education, colleges of advanced education and universities) has been free since the beginning of 1974.

At the national level, the Commonwealth Government, through its Department of Education, provides a number of schemes of assistance for Australian students to facilitate access to education, particularly at the upper secondary and post-secondary level. A brief description of these schemes was given in the 1980 Year Book and are listed later in this chapter, in the statistical table dealing with Student Assistance Schemes.

In addition, the States offer various schemes of assistance at the primary and secondary level; some are paid directly to the schools, others to the student or the student's parents. Many of these awards are intended to offset the cost of books, to enable students to attend special schools, or to assist students in remote areas who need to live away from home or to travel long distances to attend school.

Some universities have a small number of scholarships or other forms of assistance to enable students to undertake tertiary study. Some of these awards are at the post-graduate level, and some are for study overseas. Some non-government schools also offer scholarships and bursaries to assist students.

Administrative structure of education at the national level

As mentioned at the beginning of this chapter, the Commonwealth Government has direct responsibility for education only in the Australian Capital Territory and the external Territories; the Northern Territory Government having assumed responsibility for education in the Territory from 1 July 1979. (See relevant State Year Books for a description of State administrative structures.) The Commonwealth Government, however, has special responsibilities for the Aboriginal people and for migration, as well as the power to provide assistance for students. Moreover, the Commonwealth Government is responsible for international relations in education. Accordingly, the Commonwealth Department of Education deals with the administration of schemes of student assistance, international education, some aspects of migrant education, language teaching and Aboriginal Education. The Department also liaises with the media and community groups, and produces a range of publications relating to education in Australia, e.g. *Directory of Higher Education Courses*, *Education News* and *Hemisphere*, an Asian-Australian monthly.

The Department provides a secretariat for the Organisation for Economic Co-operation and Development (OECD) Advisory Committee on Education and co-ordinates Australia's involvement in the OECD education research activities under the Centre for Educational Research and Innovation (CERI). As well, the Department provides a secretariat for the Australian National Commission for the United Nations Educational, Scientific and Cultural Organisation (UNESCO) which has a specialist Education Committee. The Department also provides a service for other government departments, educational institutions and employing authorities in the assessment of educational qualifications obtained overseas, and is responsible for the supervision of private overseas students studying in Australia.

The Australian Constitution empowers the Commonwealth Government to make grants to the States and to place conditions upon such grants. This power has been used to provide financial assistance to the States specifically for educational purposes. There are two national education commissions which advise the Commonwealth Government on the needs of educational institutions throughout Australia for the purposes of financial assistance: the Schools Commission, which was established in 1973; and the Tertiary Education Commission, which was established in 1977 to replace three former commissions—the Universities Commission, the Commission on Advanced Education and the Technical and Further Education Commission. The Tertiary Education Commission comprises a Commission, which is concerned with co-ordination and inter-sectoral matters, and three Councils on universities, advanced education and technical and further education.

Generally, the Commissions are required to consult with State authorities (and, in the case of the Schools Commission, with the authorities conducting non-government schools) and such other persons, bodies and authorities as they think necessary before making recommendations to the Commonwealth Government on the amount of financial assistance required, both in general and for specific purposes, to meet the needs of each sector.

The needs for financial assistance for pre-school and child care facilities are considered at the national level by the Office of Child Care within the Commonwealth Department of Social Security.

Commonwealth Government education authorities also function as co-ordinating agencies for joint activity by the States and Territories in a number of fields.

- The *Australian Council on Awards in Advanced Education* seeks, in consultation with State co-ordinating bodies, to establish consistency in awards in advanced education by establishing, maintaining and publishing a register of such awards.
- A national *Curriculum Development Centre* was established in 1973 by the Commonwealth Government with the co-operation of the States to produce, promote research into, and disseminate information about school curricula and school educational matters. The Curriculum Development Centre has responsibility for the National Committee on Social Science Teaching, the National Committee on English Teaching, and the Asian Studies Co-ordinating Committee, and has funded a number of projects such as the Social Education Materials Project (SEMP).

A number of other bodies at the national level have an important co-ordinating, planning or funding role.

- The *Australian Education Council*, comprising the Commonwealth and State Ministers for Education, meets at least once each year as a consultative body to consider matters of mutual interest, such as the material and personnel needs of schools and co-operation in educational developments generally. It is assisted by a Standing Committee consisting of senior officials including the Directors-General of Education in each State and the Secretary of the Commonwealth Department of Education.
- The *Conference of the Directors-General of Education* also meets annually. Matters discussed and decisions reached at the Conference have a direct influence in each State and Territory on such matters as pre-service and in-service education of teachers, school staffing, curricula, special education, building programs, administrative procedures and the extent of uniformity and diversity between education systems. Under the auspices of the Directors-General Conference, regular meetings of senior specialist personnel are held.

The Commonwealth Government also has an important role in the encouragement and financing of educational research, which is principally carried out in universities, colleges of advanced education and in State and Commonwealth Departments of Education.

- The *Education Research and Development Committee* (ERDC), established in 1970 as the Australian Advisory Committee on Research and Development in Education (AACRDE), is an advisory committee to the Commonwealth Minister for Education. It co-ordinates educational research funded within the Minister's portfolio, provides advice on priorities in educational research and disseminates information on completed research and research in progress which it has funded. The Committee also administers a scheme for providing training for educational researchers.
- The *Australian Council for Educational Research* (ACER) is an independent national research organisation. The Council is funded by annual grants from each of the State Governments and the Commonwealth Government, as well as from its own activities. The Council is involved in its own and contract research in co-operation with education systems and plays a central role in the development, production and distribution of tests and other measuring instruments, and on research into teaching and learning, and into the broad foundations of education. The ACER acts as the Australian national centre for the program of international surveys of student achievement conducted by the International Association for Evaluation of Education Achievement (IEA).

There are also a number of non-government organisations which have a co-ordinating role in education at the national level. These include the *National Catholic Education Commission*, the *National Council for Independent Schools*, the *Australian Vice-Chancellors' Committee*, the *Australian Conference of Principals of Colleges of Advanced Education* and the *Australian High School Principals' Association*. Teachers at various levels have national organisations, as do some community and parental groups. The Australian Union of Students is a national organisation for tertiary students. (For further details see the *Commonwealth Education Directory*, published by the Commonwealth Department of Education).

Major current issues in education

Some of the major initiatives taken in education at the national level are discussed below. (See relevant State Year Books for a description of State issues.)

The Committee of Inquiry into Education and Training

The Committee of Inquiry into Education and Training was established by the Government in September 1976. The Committee comprised distinguished representatives of education, employer and trade union interests under the chairmanship of Professor B. R. Williams, Vice-Chancellor of the University of Sydney.

The Report of the Williams Committee was tabled, on 22 March 1979, in the Commonwealth Parliament by the Prime Minister. It constituted the most comprehensive examination ever undertaken in Australia into the provision of education facilities and services for individual development and into the relationship between the education system and the labour market. The Report consisted of 3 volumes and contained in excess of 100 recommendations.

The Commonwealth's response to the Report of the Inquiry was announced on 22 November 1979 in the Commonwealth Parliament by the Minister for Education. The Government decided that the following policy objectives will guide its responses:—

- qualitative improvement of the TAFE sector;
- strengthening the teaching of basic skills in schools;

- facilitating the transition of young people from school to work including the development of a comprehensive policy for youth in transition;
- improving the quality and availability of labour market information;
- improving skills training arrangements;
- strengthening and concentrating research in universities;
- continuing monitoring and adjustments of the education system.

Initiatives that are being taken include:—

- a Commonwealth contribution of half of the agreed annual cost of the National Centre for Research and Development in TAFE and of the national program of monitoring literacy and numeracy;
- a Commonwealth contribution of \$25 million in 1980 rising to \$40 million in 1984 to the Commonwealth/State transition education program. Part of these funds are specifically earmarked for an immediate expansion of pre-apprenticeship and pre-vocational training;
- the establishment of a Bureau of Labour Market Research within the Department of Employment and Youth Affairs.

The transition from secondary education to employment

On 22 November 1979, the Commonwealth Ministers for Education and for Employment and Youth Affairs announced that the Commonwealth would provide additional grants to a total of \$150 million over five years for a special Transition from School to Work Program involving matching contributions from the States and the Northern Territory after the first year. The Commonwealth contribution in 1980 would be \$25 million rising to \$40 million in real terms in 1984. These funds would provide for the development of programs, in both government and non-government schools and in TAFE colleges, for the extension and diversification of education and training. The primary concern of this Transition Program is to provide appropriate education and training courses for those 50,000 young people who leave school each year with poor employment prospects and to provide for those people at risk still in school who are likely to face similar difficulties when it comes their turn to leave.

In December 1979, discussions were held with the States and Territories to develop proposals for funding. Such proposals have included expansion of TAFE programs such as pre-apprenticeship, pre-vocational and pre-employment courses, and EPUY programs, development of alternative courses in schools for potential early school leavers, development of link courses, improved services and techniques for identifying potential early school leavers, expansion of school counsellor, vocational education and guidance services, and teacher development programs and community education projects.

Schemes introduced to assist young Australians seeking employment

The *Education Program for Unemployed Youth* (EPUY), which was introduced in July 1977, is funded by the Commonwealth Department of Education. Under this program, funds are provided to State and Territorial education authorities to develop and conduct courses for young people for whom low or inadequate levels of educational achievement form a primary barrier to their obtaining stable employment. Courses are designed to provide instruction in literacy and numeracy, to promote self confidence and to give students some basic vocational skills and a knowledge of job seeking techniques. Courses are from six to twenty weeks duration.

Persons less than 25 years of age are eligible provided that they have been registered for employment or can show other evidence of having been unemployed for not less than four of the previous twelve months, and have been away from full-time education for the same length of time and are currently registered for employment. An amount of \$1.969 million was made available for expenditure on the program in 1977–78, \$3.2 million in 1978–79 and \$3.7 million in 1979–80. A total of 2,500 students undertook the EPUY course in 1977–78, 4,269 in 1978–79 and 4,181 in 1979–80, this figure excluding transition EPUY.

Other schemes, administered by the Department of Employment and Youth Affairs, which may assist young people in the transition from school to work are the *National Employment and Training Scheme* (NEAT), the *Special Youth Employment Training Program* (SYETP), the *Commonwealth Rebate for Apprentice Full-Time Training* (CRAFT), the *Relocation Assistance Scheme* (RAS) and the *Community Youth Support Scheme* (CYSS).

National Inquiry into Teacher Education

In July 1978, the Minister for Education announced the establishment of a National Inquiry into Teacher Education under the chairmanship of Emeritus Professor J. J. Auchmuty. All State Governments are co-operating in the Inquiry and the Secretariat is provided by the Commonwealth Department of Education. The first meeting of the fifteen member Committee was held in December 1978. Work continued throughout 1979 and the last meeting of the Committee was held in August 1979. The final Report was released in September 1980.

Recommendations include:—

- regular development leave for teachers;
- funding of non-award courses in teacher education institutions;
- a four-years initial training for all teachers;
- student assistance provisions for mature age Aboriginal teacher education students and for teachers of non-English speaking background;
- in-service support for pre-school teachers;
- the establishment of centres of specialisation oriented to special areas of in-service need;
- the structuring of teacher education courses to take account of the multicultural nature of Australian society and of specialist services available to children with more than ordinary learning difficulties.

The Inquiry into Management Education

The Report of the Study Group on Structural Adjustment (Crawford Report) recommended that an assessment be made of management education in Australia. In response to this, a Committee of Inquiry was established in April 1980 to examine the availability and effectiveness of courses in management education for middle and top level business executives. The Inquiry is also examining the special needs of small businesses in relation to management education. The Committee comprises five part-time members. Its Chairman is Mr J. T. Ralph, Executive Director, CRA Limited.

The Inquiry expects to report by the end of 1981.

Australian Studies in Student Performance (ASAP)

In 1979 the Australian Education Council set up a Steering Committee to supervise a project aimed at providing national data on aspects of student performance in basic skills. The project to be conducted by the Australian Council of Educational Research will involve up to 7,000 students, half aged 10 years and the other half aged 14 years. The project will be externally evaluated and under the auspices of the AEC.

Educational training in the Defence Force

Information on educational training in the Defence Force is contained in Chapter 4 Defence, pages 62-6 inclusive.

EDUCATION STATISTICS

For the most recent statistics available on subjects dealt with in this chapter reference should be made to the series of mimeographed publications on social statistics issued by the Australian Bureau of Statistics. These publications comprise *Schools, Australia* (4202.0), *Colleges of Advanced Education, Australia* (4206.0) and *University Statistics, Australia*, Parts 1 and 2 (4208.0, 4209.0). Financial aspects are dealt with in the annual publications *Commonwealth Government Finance, Australia* (5502.0), *State and Local Government Finance, Australia* (5504.0) and *Expenditure on Education, Australia* (5510.0). The annual reports of the respective State education departments provide detailed statistical and other information about particular States. The Commonwealth Department of Education issues publications on aspects of primary, secondary and tertiary and other post-secondary education.

NUMBER OF EDUCATIONAL INSTITUTIONS, 1979

	<i>Schools</i>			<i>Total</i>	<i>Colleges of advanced education</i>		<i>Teachers colleges</i>
	<i>Government</i>	<i>Roman Catholic</i>	<i>Other non-government (a)</i>		<i>Universities</i>		
New South Wales	2,221	611	183	3,015	6	24	3
Victoria	2,155	480	137	2,772	4	23	1
Queensland	1,249	281	54	1,584	3	10	1
South Australia	632	103	52	787	2	6	—
Western Australia	674	147	49	870	2	6	—
Tasmania	254	37	23	314	1	1	—
Northern Territory	119	10	3	132	—	—	—
Australian Capital Territory	89	25	5	119	1	1	1
Australia—1979	7,393	1,694	506	9,593	19	71	6
1978	7,364	1,680	465	9,509	19	73	7
1977	7,325	1,685	440	9,450	19	73	8

(a) Of the 506 other non-government schools in 1979, 99 or about 20 per cent were Church of England.

NUMBER OF STUDENTS ENROLLED AT EDUCATIONAL INSTITUTIONS, 1979

	<i>Schools</i>			<i>Total</i>	<i>Colleges of advanced education</i>		
	<i>Government</i>	<i>Roman Catholic</i>	<i>Other non-government (a)</i>		<i>Universities</i>	<i>Teachers colleges (b)</i>	
New South Wales	807,761	187,587	37,354	1,032,702	61,848	36,741	558
Victoria	614,419	157,927	53,214	825,560	42,965	54,218	8
Queensland	349,182	78,227	16,636	444,045	21,721	21,388	219
South Australia	224,525	27,323	12,649	264,497	12,840	16,042	—
Western Australia	207,029	34,553	11,028	252,610	12,000	19,361	—
Tasmania	73,046	10,207	4,194	87,447	3,435	2,827	—
Northern Territory	21,410	3,449	297	25,156	—	—	—
Australian Capital Territory	39,346	13,072	2,496	54,914	6,001	5,090	234
Australia—1979	2,336,718	512,345	137,868	2,986,931	160,810	155,667	1,019
1978	r2,354,422	r505,759	r132,447	r2,992,628	160,035	149,922	989
1977	r2,349,310	r501,589	r128,252	r2,979,151	158,411	140,312	1,307

(a) Of the 137,868 students at other non-government schools in 1979, 53,956 or about 39 per cent were attending Church of England Schools. (b) Excludes students enrolled at both a teachers college and another type of institution: they are included in the statistics for the other institution at which they are enrolled.

NOTE: For details of technical and further education institutions and associated enrolments, see pages 256–8.

Schools

Statistics of government and non-government schools, teachers and students in 1979 and earlier years are shown in the following tables. Statistics for the number of schools and students in each State are included in the 2 preceding tables. The number of schools and teachers refer to the position at dates which vary from State to State and in some instances from year to year. Institutions providing only pre-school education, senior technical and agricultural colleges, evening schools, continuation classes, and institutions such as business colleges and coaching establishments are not included in these statistics. Student statistics in the tables which follow refer to the number of students enrolled at the schools included in the August schools census. For more detailed statistical information, see the annual publication *Schools, Australia* (4202.0).

NUMBERS OF TEACHERS(a), BY CATEGORY OF SCHOOL, STATES AND TERRITORIES, 1979

	<i>Government schools</i>	<i>Non-government schools</i>		
		<i>Roman Catholic</i>	<i>Other</i>	<i>All schools</i>
New South Wales	46,243	8,872	2,563	57,677
Victoria	40,779	7,582	3,762	52,123
Queensland	19,481	3,588	1,007	24,076
South Australia	14,603	1,407	889	16,899
Western Australia	11,495	1,776	793	14,064
Tasmania	4,751	490	302	5,544
Northern Territory	1,360	168	17	1,545
Australian Capital Territory	2,497	609	161	3,267
Australia—1979	141,210	24,492	9,495	175,197
1978	138,360	23,255	8,942	170,557
1977	135,931	22,353	8,552	166,836

(a) Full-time teachers plus full-time equivalent units of part-time teaching, rounded to whole numbers. Trainee teachers are excluded.

PERCENTAGE CHANGES BETWEEN 1977 AND 1979—NUMBERS OF SCHOOLS, TEACHERS AND STUDENTS

	<i>Schools</i>	<i>Teachers</i>	<i>Students</i>
Government	+0.9	+3.9(b)	—0.5
Roman Catholic	+0.5	+9.6	+2.1
Other Non-government	+15.0(0.0)(a)	+11.0(8.2)(a)	+7.5(4.8)(a)
Total	+1.5	+5.0	+0.3

(a) Figures for Church of England are shown in brackets. Included some pre-school staff.

(b) Actual increase was slightly greater because the 1977 data included some pre-school staff.

The percentage changes between 1977 and 1979 show that the total number of teachers has increased considerably, by about 5 per cent, the increase being particularly pronounced for non-government schools. The number of non-Roman Catholic and non-Church of England independent schools has also increased sharply, by about 15 per cent, but the overall increase in the number of schools was only about 1.5 per cent. Student enrolments dropped by about half of one per cent in government but increased significantly in non-government schools, especially non-Roman Catholic and non-Church of England independent schools, so that the net effect was a slight increase of about 0.3 per cent in overall enrolments.

AVERAGE AGE OF STUDENTS IN GOVERNMENT SCHOOLS, BY YEAR OF EDUCATION(a), 1979
(age as at the August schools census, 1979)

	NSW	VIC	QLD	SA	WA	TAS(b)	NT	ACT	
Year 12	17y 10m	17y 11m	17y 4m	17y 2m	17y 3m	18y 2m	17y 5m	17y 11m	Year 12
Year 11	16y 10m	16y 9m	16y 2m	16y 2m	16y 3m	16y 11m	16y 4m	16y 11m	Year 11
Year 10	15y 11m	15y 9m	15y 3m	15y 1m	15y 3m	15y 9m	15y 6m	15y 10m	Year 10
Year 9	14y 11m	14y 9m	14y 3m	14y 2m	14y 3m	14y 9m	14y 6m	14y 10m	Year 9
Year 8	13y 11m	13y 9m	13y 3m	13y 1m	13y 3m	13y 9m	13y 10m	13y 10m	Year 8
Year 7	12y 10m	12y 8m	12y 3m	12y 1m	12y 2m	12y 9m	12y 8m	12y 9m	Year 7
Year 6	11y 10m	11y 8m	11y 3m	11y 1m	11y 2m	11y 9m	11y 6m	11y 9m	Year 6
Year 5	10y 10m	10y 8m	10y 2m	10y 0m	10y 2m	10y 9m	10y 9m	10y 9m	Year 5
Year 4	9y 9m	9y 8m	9y 2m	9y 0m	9y 2m	9y 9m	9y 9m	9y 8m	Year 4
Year 3	8y 9m	8y 8m	8y 2m	8y 0m	8y 2m	8y 9m	8y 10m	8y 9m	Year 3
Year 2	7y 8m	7y 8m	7y 1m	7y 0m	7y 2m	7y 9m	7y 10m	7y 9m	Year 2
Year 1	6y 8m	6y 8m	6y 1m	6y 0m	6y 2m	6y 8m	6y 9m	6y 8m	Year 1
Pre-year 1(c)	5y 7m	5y 8m		5y 6m		5y 8m	5y 11m	5y 8m	Pre-year 1(c)

(a) Where students were enrolled in ungraded classes, i.e. not allocated to a year of education, they were excluded from the calculations in this table.

(b) In Tasmania, the Higher School Certificate may be attempted at the end of either Year 11 or Year 12. (c) Pre-year 1 comprises Kindergarten in New South Wales and the Australian Capital Territory, Preparatory in Victoria and Tasmania, Reception in South Australia, and Transition in the Northern Territory. It does not include pre-primary classes in any State or Territory.

Note: In the above diagram, 'y' stands for years and 'm' stands for months. The thick lines delineate transitions from pre-school to pre-year 1 or primary and from primary to secondary.

The table, average age by year, indicates that students studying for the final year of secondary school were considerably older in New South Wales, Victoria, Tasmania and the Australian Capital Territory than in the other States. This was possibly due to students in those States having entered the school system later than in the other States or to a greater proportion of students repeating one or more years during their school careers.

PERCENTAGE CHANGES BETWEEN 1977 AND 1979—ENROLMENTS BY AGE CATEGORY

Age last birthday (years)	Government		Non-government		All students
	Males	Females	Males	Females	
Under 6 to 9	-0.2	-0.2	+3.9	+2.8	+0.5
10 to 14	-1.1	-0.5	+3.3	+2.1	-0.1
15 and over	-1.9	+0.5	+3.9	+4.4	+0.6
All ages	-0.8	-0.2	+3.6	+2.8	+0.3

The percentage changes between 1977 and 1979 indicate that non-government schools appreciably increased their enrolments across all age categories, and for both sexes, whereas enrolments at government schools dropped slightly for females and more markedly for males, especially in the 15 year and over age category. For females in the 15 year and over category there was a slight increase which partly offset the decline for the younger age categories.

The tables below present detailed information on student enrolments for 1979 showing breakdowns by school type, sex and State.

GOVERNMENT AND NON-GOVERNMENT SCHOOLS: STUDENTS(a), BY AGE AND SEX, AUSTRALIA, 1979
(August school census)

Age last birthday (years)	Government schools			Non-government schools			All schools		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
Under 6	81,045	76,764	157,809	20,244	19,968	40,212	101,289	96,732	198,021
6	106,959	100,796	207,755	24,237	24,360	48,597	131,196	125,156	256,352
7	113,121	107,700	220,821	25,939	26,069	52,008	139,060	133,769	272,829
8	115,491	110,027	225,518	26,308	26,655	52,963	141,799	136,682	278,481
9	108,424	102,224	210,648	25,867	25,706	51,573	134,291	127,930	262,221
10	106,362	101,110	207,472	26,099	26,134	52,233	132,461	127,244	259,705
11	101,415	95,638	197,053	26,250	25,814	52,064	127,665	121,452	249,117
12	96,770	90,659	187,429	28,499	28,535	57,034	125,269	119,194	244,463
13	94,912	88,281	183,193	28,589	29,163	57,752	123,501	117,444	240,945
14	96,438	89,428	185,866	28,142	28,689	56,831	124,580	118,117	242,697
15	87,689	81,638	169,327	26,677	27,650	54,327	114,366	109,288	223,654
16	56,487	54,433	110,920	20,784	21,265	42,049	77,271	75,698	152,969
17	27,248	28,853	56,101	13,495	13,475	26,970	40,743	42,328	83,071
18	6,848	5,959	12,807	2,776	2,199	4,975	9,624	8,158	17,782
19 and over	1,918	2,081	3,999	317	308	625	2,235	2,389	4,624
Australia—1979	1,201,127	1,135,591	2,336,718	324,223	325,990	650,213	1,525,350	1,461,581	2,986,931
1978r	1,212,500	1,141,922	2,354,422	317,132	321,074	638,206	1,529,632	1,462,996	2,992,628
1977r	1,211,127	1,138,183	2,349,310	312,821	317,020	629,841	1,523,948	1,455,203	2,979,151

(a) Figures for 1977 and 1978 have been revised because of the exclusion of pre-school enrolments for W.A., Tas. and the N.T.

SCHOOLS: STUDENTS(a), BY AGE, 1979

(August school census)

Age last birthday (years)	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Under 6	81,576	57,942	20,359	19,790	8,805	3,629	1,646	4,274	198,021
6	89,415	67,450	40,755	21,449	22,587	7,462	2,372	4,862	256,352
7	95,116	72,294	42,816	22,651	24,348	7,832	2,644	5,128	272,829
8	94,626	74,840	43,423	23,871	25,401	8,232	2,713	5,375	278,481
9	87,391	70,922	41,788	23,124	23,777	7,960	2,655	4,604	262,221
10	86,409	71,379	40,229	22,964	23,703	8,160	2,534	4,327	259,705
11	82,629	68,303	39,121	22,335	22,642	7,728	2,232	4,127	249,117
12	81,873	66,644	38,462	21,685	22,097	7,474	2,093	4,135	244,463
13	80,783	65,138	37,748	22,349	22,003	7,190	1,898	3,836	240,945
14	81,533	66,147	37,882	22,646	21,495	7,575	1,572	3,847	242,697
15	78,289	62,346	31,273	20,572	18,457	7,637	1,354	3,726	223,654
16	52,145	48,360	19,267	14,102	11,322	3,775	913	3,085	152,969
17	31,701	26,143	9,142	5,716	5,484	1,881	378	2,626	83,071
18	8,387	5,494	1,168	967	400	460	105	801	17,782
19 and over	829	2,158	612	276	89	452	47	161	4,624
Australia—1979	1,032,702	825,560	444,045	264,497	252,610	87,447	25,156	54,914	2,986,931
1978	1,032,919	830,769	439,964	269,896	252,493	87,953	24,286	54,348	2,992,628
1977	1,029,174	829,635	434,153	272,656	249,365	88,188	23,245	52,735	2,979,151

(a) Figures for 1977 and 1978 have been revised because of the exclusion of pre-school enrolments for W.A., Tas. and the N.T.

Technical and further education

The major part of technical and further education (TAFE) in Australia is provided in a network of government-administered institutions variously known as colleges, schools or centres of technical and further education. In addition, TAFE vocational courses are conducted by certain colleges of advanced education and by agricultural colleges in New South Wales and Victoria, and a large number of bodies, both statutory and voluntary, participate in the provision of adult education programs. The following statistics relate to technical and further education activities of the major government departments/divisions of TAFE, agricultural authorities and advanced education authorities; they do not include activities of bodies such as the Board of Adult Education in New South Wales, the Council of Adult Education in Victoria and the Australian Capital Territory evening colleges. For further information on the organisation of TAFE and associated statistical details, see the report, *Tertiary Education Commission—Recommendations For 1981* (July 1980), the Tertiary Education Commission's Report for 1979–81 Triennium, Volume 1 (February 1978), Volume 2 (August 1978) and Volume 3 (August 1979), the *First Report of the Technical and Further Education Commission*, (July 1976) and previous reports of the Australian Committee on Technical and Further Education.

TECHNICAL AND FURTHER EDUCATION: INSTITUTIONS BY TYPE OF INSTITUTION, 1979

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
Type of institution—									
Major TAFE Authorities—									
Major institutions(a)	81	33	26	31	27	6	2	4	210
Annexes(b)	190	14	4	562	—	—	6	—	776
Other institutions(c)	—	159	1	—	93	3	2	1	259
Annexes(b)	—	5	—	—	—	—	—	—	5
Agricultural authorities	3	6	—	—	—	—	—	—	9
Colleges of advanced education(d)	1	1	5	1	1	—	—	—	9
Total(e)									
1979	275	218	36	594	121	9	10	5	1,268
1978	227	221	36	526	122	10	8	9	1,159
1977	219	246	34	447	116	10	6	9	1,087

(a) Institutions whose functions are primarily TAFE. (b) Subsidiaries of parent institutions. (c) Institutions whose primary function is other than TAFE. (d) Colleges offering TAFE activities. (e) Includes parent institutions and subsidiaries (annexes) of parent institutions.

TECHNICAL AND FURTHER EDUCATION: ENROLMENTS (a) BY TYPE OF ENROLMENT AND STREAM OF STUDY, 1979

Type of enrolment/ stream	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
FULL-TIME ENROLMENTS(b)									
Professional	14	149	—	—	1	4	8	—	176
Para-professional	9,130	3,897	560	631	3,263	619	69	325	18,494
Trades	2,304	1,451	833	82	483	—	22	29	5,204
Other skilled	6,683	880	3,037	30	2	522	121	291	11,566
Preparatory	3,735	7,184	268	802	704	319	26	225	13,263
Adult education	—	—	—	—	—	—	—	—	—
Total	21,866	13,561	4,698	1,545	4,453	1,464	246	870	48,703
PART-TIME ENROLMENTS(b)									
Professional	1,144	22	92	308	103	11	—	—	1,680
Para-professional	50,486	18,869	5,577	24,576	31,910	2,760	604	3,301	138,083
Trades	52,117	42,820	15,301	9,120	16,268	5,066	1,018	2,196	143,906
Other skilled	88,833	20,538	7,899	23,221	5,280	3,691	1,328	6,209	156,999
Preparatory	21,284	34,119	6,031	24,347	5,392	2,065	1,929	2,307	97,474
Adult education	20,454	36,948	42,263	51,311	65,975	18,280	5,247	1,656	242,134
Total	234,318	153,316	77,163	132,883	124,928	31,873	10,126	15,669	780,276

For footnotes see end of table.

**TECHNICAL AND FURTHER EDUCATION: ENROLMENTS (a) BY TYPE OF ENROLMENT AND
STREAM OF STUDY, 1979—continued**

Type of enrolment/ stream	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
EXTERNAL ENROLMENTS									
Professional	527	1	—	165	—	—	—	—	693
Para-professional	4,998	4,543	2,434	3,316	7,582	864	145	—	23,882
Trades	1,146	363	729	289	2,733	—	32	—	5,292
Other skilled	5,472	1,256	1,715	963	1,820	73	—	—	11,299
Preparatory	4,393	1,657	3,969	2,770	1,866	594	—	—	15,249
Adult education	1,124	11	79	329	1,291	—	—	—	2,834
<i>Total</i>	<i>17,660</i>	<i>7,831</i>	<i>8,926</i>	<i>7,832</i>	<i>15,292</i>	<i>1,531</i>	<i>177</i>	<i>—</i>	<i>59,249</i>

TOTAL ENROLMENTS									
Professional	1,685	172	92	473	104	15	8	—	2,549
Para-professional	64,614	27,309	8,571	28,523	42,755	4,243	818	3,626	180,459
Trades	55,567	44,634	16,863	9,491	19,484	5,066	1,072	2,225	154,402
Other skilled	100,988	22,674	12,651	24,214	7,102	4,286	1,449	6,500	179,864
Preparatory	29,412	42,960	10,268	27,919	7,962	2,978	1,955	2,532	125,986
Adult education	21,578	36,959	42,342	51,640	67,266	18,280	5,247	1,656	244,968
<i>Total 1979</i>	<i>273,844</i>	<i>174,708</i>	<i>90,787</i>	<i>142,260</i>	<i>144,673</i>	<i>34,868</i>	<i>10,549</i>	<i>16,539</i>	<i>888,228</i>

(a) Total enrolments registered during the year up to 31 October. These data refer to numbers of enrolments, not students. (b) An enrolment is full-time when average weekly attendance over the teaching year amounts to 15 hours or more and part-time when less than 15 hours.

**TECHNICAL AND FURTHER EDUCATION: ENROLMENTS (a) BY TYPE OF ENROLMENT AND
FIELD OF STUDY, 1979**

Field of study	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
FULL-TIME ENROLMENTS(b)									
Applied science	494	667	96	—	169	14	10	51	1,501
Art and design	1,306	1,120	331	154	661	68	—	38	3,678
Building industry	1,016	894	833	30	245	14	66	12	3,110
Business studies	8,642	3,351	2,249	170	1,519	665	73	291	16,960
Engineering	3,823	3,251	88	202	629	192	14	30	8,229
Rural and horticultural	218	151	442	56	126	—	—	—	993
Music	—	48	—	17	—	—	—	—	65
Para-medical services	227	13	—	8	47	—	—	—	295
Service industries	1,781	968	23	65	374	147	10	223	3,591
General studies	4,359	3,098	636	843	683	364	73	225	10,281
<i>Total</i>	<i>21,866</i>	<i>13,561</i>	<i>4,698</i>	<i>1,545</i>	<i>4,453</i>	<i>1,464</i>	<i>246</i>	<i>870</i>	<i>48,703</i>

PART-TIME ENROLMENTS(b)									
Applied science	1,952	1,605	694	518	1,747	317	299	252	7,384
Art and design	14,674	10,435	16,696	19,178	5,667	5,323	1,238	931	74,142
Building industry	16,576	21,506	7,230	10,331	5,895	3,130	667	991	66,326
Business studies	54,076	19,607	7,385	19,375	15,693	2,701	1,243	4,127	124,207
Engineering	57,788	41,981	17,847	18,979	16,942	4,583	1,307	2,821	162,248
Rural and horticultural	8,317	4,750	1,402	5,557	614	863	202	865	22,570
Music	—	696	630	3,222	—	822	981	307	6,658
Para-medical services	2,341	407	263	548	247	359	116	27	4,308
Service industries	52,702	23,283	12,045	30,305	3,862	8,896	1,516	3,100	135,709
General studies	25,892	29,046	12,971	24,870	74,261	4,879	2,557	2,248	176,724
<i>Total</i>	<i>234,318</i>	<i>153,316</i>	<i>77,163</i>	<i>132,883</i>	<i>124,928</i>	<i>31,873</i>	<i>10,126</i>	<i>15,669</i>	<i>780,276</i>

EXTERNAL ENROLMENTS									
Applied science	1	392	22	—	494	—	—	—	909
Art and design	738	—	—	338	205	—	—	—	1,281
Building industry	545	377	547	144	675	—	32	—	2,320
Business studies	5,427	4,059	1,369	2,518	4,038	617	78	—	18,106
Engineering	2,452	908	1,611	587	3,964	—	—	—	9,522
Rural and horticultural	1,918	239	595	837	751	126	67	—	4,533
Music	—	—	—	24	—	—	—	—	24
Para-medical services	257	—	196	51	172	73	—	—	749
Service industries	1,929	271	509	122	718	—	—	—	3,549
General studies	4,393	1,585	4,077	3,211	4,275	715	—	—	18,256
<i>Total</i>	<i>17,660</i>	<i>7,831</i>	<i>8,926</i>	<i>7,832</i>	<i>15,292</i>	<i>1,531</i>	<i>177</i>	<i>—</i>	<i>59,249</i>

For footnotes see end of table.

TECHNICAL AND FURTHER EDUCATION: ENROLMENTS (a) BY TYPE OF ENROLMENT AND FIELD OF STUDY, 1979—continued

Field of study	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
TOTAL ENROLMENTS									
Applied science	2,447	2,664	812	518	2,410	331	309	303	9,794
Art and design	16,718	11,555	17,027	19,670	6,533	5,391	1,238	969	79,101
Building industry	18,137	22,777	8,610	10,505	6,815	3,144	765	1,003	71,756
Business studies	68,145	27,017	11,003	22,063	21,250	3,983	1,394	4,418	159,273
Engineering	64,063	46,140	19,546	19,768	21,535	4,775	1,321	2,851	179,999
Rural and horticultural	10,453	5,140	2,439	6,450	1,491	989	269	865	28,096
Music	—	744	630	3,263	—	822	981	307	6,747
Para-medical services	2,825	420	459	607	466	432	116	27	5,352
Service industries	56,412	24,522	12,577	30,492	4,954	9,043	1,526	3,323	142,849
General studies	34,644	33,729	17,684	28,924	79,219	5,958	2,630	2,473	205,261
Total—1979	273,844	174,708	90,787	142,260	144,673	34,868	10,549	16,539	888,228
1978	259,842	183,183	87,010	137,337	142,559	36,352	9,292	15,397	870,972
1977	238,308	158,935	82,537	(c) 149,352	136,335	29,041	9,975	14,330	818,813

(a) These data refer to numbers of enrolments; not students. (b) An enrolment is full-time when average weekly attendance over the teaching year amounts to 15 hours or more and part-time when less than 15 hours. (c) South Australia changed its method of reporting provisional or multiple enrolments in 1978, resulting in a drop with respect to previous years.

TECHNICAL AND FURTHER EDUCATION: TEACHING EFFORT (a) BY TYPE OF APPOINTMENT AND STREAM, 1979
(⁰000 hours)

Stream	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
FULL-TIME STAFF(b)									
Professional	3.9	13.5	0.5	4.8	12.8	0.3	—	—	35.9
Para-professional	612.3	405.4	47.4	235.8	327.0	43.6	14.6	43.6	1,729.7
Trades	1,042.2	1,027.9	396.8	337.0	264.5	125.7	23.4	40.3	3,257.9
Other skilled	455.4	159.4	191.7	51.8	10.7	36.2	8.1	28.7	942.0
Preparatory	191.6	486.8	60.0	99.0	44.5	6.1	9.3	19.6	916.9
Adult education	31.6	70.9	11.9	34.7	14.2	1.0	2.9	3.0	170.3
Total	2,337.0	2,163.9	708.4	763.1	673.7	212.9	58.3	135.3	7,052.8
PART-TIME STAFF(c)									
Professional	5.4	0.7	0.4	0.1	0.8	0.8	0.3	—	8.5
Para-professional	410.6	97.9	61.8	58.6	130.9	37.4	4.3	25.2	826.8
Trades	254.9	53.2	10.2	9.0	59.4	22.8	1.1	8.7	419.1
Other skilled	373.4	55.3	44.9	34.6	11.7	19.2	1.9	20.8	561.9
Preparatory	141.9	171.3	41.4	84.3	33.3	17.7	10.7	31.0	531.8
Adult education	82.4	54.2	59.1	136.2	106.2	32.3	10.9	3.3	484.5
Total	1,268.6	432.6	217.7	322.8	342.3	130.2	29.2	89.1	2,832.6
ALL TEACHING STAFF									
Professional	9.3	14.2	0.9	4.9	13.6	1.1	0.3	—	44.5
Para-professional	1,022.9	503.3	109.2	294.4	457.9	81.0	18.9	68.8	2,556.5
Trades	1,297.1	1,081.1	407.0	346.0	323.9	148.5	24.5	49.0	3,677.0
Other skilled	828.8	214.7	236.6	86.4	22.4	55.4	10.0	49.5	1,503.9
Preparatory	333.5	658.1	101.5	183.3	77.8	23.8	20.0	50.6	1,448.7
Adult education	114.0	125.1	71.0	170.9	120.4	33.3	13.8	6.4	654.9
Total—1979	3,605.6	2,596.5	926.2	1,085.9	1,016.0	343.1	87.5	224.4	9,885.5
1978	3,486.9	2,516.2	904.5	1,034.6	1,016.4	322.0	74.3	209.3	9,564.2
1977	3,213.2	2,093.6	852.8	1,033.2	936.6	313.1	69.0	182.3	8,694.0

(a) Hours of classroom duty performed by teachers during the teaching year (excluding all non-teaching staff). (b) All teaching staff employed full-time by the relevant authority or institution, including 'multi-sector' staff whose duties extend to teaching areas other than TAFE. (c) Includes hours worked on an overtime basis by full-time staff.

Colleges of Advanced Education

The following statistics refer to operative institutions listed in the appropriate States Grants (Tertiary Education Assistance) Acts as colleges of advanced education, and the Canberra College of Advanced Education. These tables show details of students commencing advanced level courses, the number of students and teaching staff in 1979 and the number of students who completed advanced level courses in 1978. The reference date for these statistics is 30 April except for students who completed advanced level courses for whom the reference period is the twelve months ended 31 December. For more detailed statistics, see the annual publication *Colleges of Advanced Education, Australia* (4206.0).

COLLEGES OF ADVANCED EDUCATION: STUDENTS COMMENCING BY COURSE LEVEL AND FIELD OF STUDY, 1979(a)

Field of study	Master degree	Graduate diploma	Bachelor degree	Diploma	Associate diploma	Total		
						Males	Females	Persons
Agriculture	—	111	139	190	425	604	261	865
Applied sciences	64	1,257	3,344	706	662	3,929	2,104	6,033
Art and design	—	485	1,719	1,484	575	1,839	2,424	4,263
Building, surveying and architecture	9	175	1,034	261	207	1,364	322	1,686
Commercial and business studies	88	2,232	8,921	668	1,403	9,632	3,680	13,312
Engineering and technology	34	457	2,240	166	649	3,460	86	3,546
Liberal studies	9	2,559	4,957	1,204	1,275	3,578	6,426	10,004
Music	1	115	304	203	38	266	395	661
Para-medical	33	354	1,854	1,034	679	921	3,033	3,954
Teacher education	33	2,781	4,844	10,396	58	5,093	13,019	18,112
Total—1979	271	10,526	29,356	16,312	5,971	30,686	31,750	62,436
1978	262	9,620	27,396	18,880	6,085	31,399	30,844	62,243
1977	205	8,249	23,848	19,711	4,606	29,165	27,454	56,619

(a) Excludes students commencing in second semester.

COLLEGES OF ADVANCED EDUCATION: STUDENTS WHO COMPLETED COURSES BY FIELD OF STUDY AND COURSE LEVEL, 1978

Field of study	Master degree	Graduate diploma	Bachelor degree	Diploma	Associate diploma	Total		
						Males	Females	Persons
Agriculture	—	65	55	168	184	370	102	472
Applied sciences	8	256	948	386	152	1,210	540	1,750
Art and design	—	125	378	1,119	49	774	897	1,671
Building, surveying and architecture	—	47	458	153	42	614	86	700
Commercial and business studies	3	873	1,720	875	339	2,959	851	3,810
Engineering and technology	5	71	954	459	93	1,541	41	1,582
Liberal studies	1	867	1,405	416	359	1,150	1,898	3,048
Music	—	46	46	190	15	88	209	297
Para-medical	10	133	1,031	650	459	479	1,804	2,283
Teacher education	20	3,045	1,768	12,812	5	5,569	12,081	17,650
Total—1978	47	5,528	8,763	17,228	1,697	14,754	18,509	33,263
1977	41	5,306	6,664	17,830	1,651	13,681	17,811	31,492
1976	36	4,412	4,813	17,914	1,679	12,995	15,859	28,854

**COLLEGES OF ADVANCED EDUCATION: STUDENTS BY TYPE OF ENROLMENT
COURSE LEVEL AND FIELD OF STUDY, 1979**

Field of study	Master degree	Graduate diploma	Bachelor degree	Diploma	Associate diploma	Total		
						Males	Females	Persons
FULL-TIME STUDENTS								
Agriculture	—	63	342	514	668	1,202	385	1,587
Applied sciences	73	572	5,246	1,204	533	4,688	2,940	7,628
Art and design	—	326	3,677	4,059	274	3,662	4,674	8,336
Building, surveying and architecture	—	33	1,801	229	172	1,735	500	2,235
Commercial and business studies	38	668	8,617	1,521	664	7,130	4,378	11,508
Engineering and technology	17	10	4,446	429	350	5,145	107	5,252
Liberal studies	7	1,237	6,757	2,382	1,105	4,234	7,254	11,488
Music	1	90	521	561	40	464	749	1,213
Para-medical	38	170	3,853	1,728	754	1,669	4,874	6,543
Teacher education	2	1,403	1,524	23,403	3	6,187	20,148	26,335
Total—1979	176	4,572	36,784	36,030	4,563	36,116	46,009	82,125
1978	122	4,590	34,416	40,395	4,743	37,396	46,870	84,266
1977	98	4,737	30,701	45,507	3,851	37,946	46,948	84,894
PART-TIME—INTERNAL STUDENTS								
Agriculture	—	5	19	32	37	72	21	93
Applied sciences	145	1,237	2,944	780	412	4,024	1,494	5,518
Art and design	—	350	520	436	747	898	1,155	2,053
Building, surveying and architecture	12	327	1,267	852	175	2,343	290	2,633
Commercial and business studies	227	2,333	12,074	1,572	1,697	14,796	3,107	17,903
Engineering and technology	98	603	2,635	451	684	4,407	64	4,471
Liberal studies	28	1,778	4,677	656	1,076	3,133	5,082	8,215
Music	1	51	274	200	33	207	352	559
Para-medical	57	305	1,616	457	381	763	2,053	2,816
Teacher education	87	1,965	4,842	5,139	74	4,013	8,094	12,107
Total—1979	655	8,954	30,868	10,575	5,316	34,656	21,712	56,368
1978	529	7,452	26,752	12,164	4,507	32,889	18,518	51,407
1977	416	5,820	22,460	12,525	3,445	30,302	14,364	44,666
PART-TIME—EXTERNAL STUDENTS								
Agriculture	—	98	10	—	159	200	67	267
Applied sciences	34	31	925	25	315	958	372	1,330
Art and design	—	—	170	20	1	152	39	191
Building, surveying and architecture	—	35	18	72	149	261	13	274
Commercial and business studies	6	714	2,425	469	1,015	3,891	738	4,629
Engineering and technology	3	210	77	40	280	604	6	610
Liberal studies	—	681	1,699	183	317	956	1,924	2,880
Music	—	—	2	1	—	3	—	3
Para-medical	—	1	40	137	293	138	333	471
Teacher education	—	865	2,332	3,305	17	1,865	4,654	6,519
Total—1979	43	2,635	7,698	4,252	2,546	9,028	8,146	17,174
1978	21	1,868	5,991	4,453	1,916	7,524	6,725	14,249
1977	20	1,145	3,925	4,457	1,205	5,569	5,183	10,752
ALL STUDENTS								
Agriculture	—	166	371	546	864	1,474	473	1,947
Applied sciences	252	1,840	9,115	2,009	1,260	9,670	4,806	14,476
Art and design	—	676	4,367	4,515	1,022	4,712	5,868	10,580
Building, surveying and architecture	12	395	3,086	1,153	496	4,339	803	5,142
Commercial and business studies	271	3,715	23,116	3,562	3,376	25,817	8,223	34,040
Engineering and technology	118	823	7,158	920	1,314	10,156	177	10,333
Liberal studies	35	3,696	13,133	3,221	2,498	8,323	14,260	22,583
Music	2	141	797	762	73	674	1,101	1,775
Para-medical	95	476	5,509	2,322	1,428	2,570	7,260	9,830
Teacher education	89	4,233	8,698	31,847	94	12,065	32,896	44,961
Total—1979	874	16,161	75,350	50,857	12,425	79,800	75,867	155,667
1978	672	13,913	67,159	57,012	11,166	77,809	72,113	149,922
1977	534	11,702	57,086	62,489	8,501	73,817	66,495	140,312

PERCENTAGE CHANGES IN ENROLMENTS BETWEEN 1977 AND 1979

	<i>Males</i>	<i>Females</i>	<i>Persons</i>
Stage—			
Commencing course	+ 5.2	+ 15.6	+ 10.3
Completing course the previous year	+ 13.5	+ 16.7	+ 15.3
Status—			
Full-time	-4.8	-2.0	-3.3
Part-time—Internal	+ 14.4	+ 51.2	+ 26.2
Part-time—External	+ 62.1	+ 57.2	+ 59.7
All students	+ 8.1	+ 14.1	+ 10.9

The percentage changes show that there has been a dramatic increase in the numbers of internal and external part-time students over the period 1977 to 1979, while the number of full-time students, especially of males, has declined.

Overall the number of students has increased by nearly 11 per cent over this period despite the decline in the number of full-time students—especially noteworthy has been the growth in external part-time students which, by 1979, comprised about 11 per cent of total students, compared to 7.7 per cent in 1977.

**COLLEGES OF ADVANCED EDUCATION: TEACHING STAFF BY FIELD OF TEACHING
STATES AND A.C.T., 1979**

Teaching effort in approved courses of full-time and part-time staff, expressed in equivalent full-time units and rounded to whole numbers.

<i>Field of teaching</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>A.C.T.</i>	<i>Australia</i>
FULL-TIME STAFF								
Agriculture	73	7	31	24	13	—	—	148
Applied sciences	341	565	229	116	124	14	84	1,473
Art and design	235	365	46	77	47	24	—	794
Building, surveying and architecture	24	60	34	25	32	7	19	200
Commercial and business studies	226	444	155	58	111	17	40	1,050
Engineering and technology	58	359	122	69	67	16	—	691
Liberal studies	385	690	247	225	185	22	48	1,801
Music	75	52	11	1	8	22	—	169
Para-medical	69	168	36	81	94	—	—	447
Teacher education	644	528	268	266	218	78	50	2,054
Not classifiable	15	17	—	1	—	4	—	37
<i>Total—1979</i>	<i>2,145</i>	<i>3,255</i>	<i>1,179</i>	<i>940</i>	<i>899</i>	<i>204</i>	<i>241</i>	<i>8,864</i>
1978	2,096	3,202	1,161	978	933	210	236	8,816
1977	2,020	3,197	1,104	951	922	201	231	8,625
PART-TIME STAFF								
Agriculture	—	2	—	1	1	—	—	5
Applied sciences	40	82	14	4	18	2	22	182
Art and design	47	76	8	10	20	5	—	167
Building, surveying and architecture	5	27	19	11	6	2	3	72
Commercial and business studies	27	61	45	9	25	3	18	188
Engineering and technology	18	28	10	7	5	—	—	68
Liberal studies	38	65	23	36	29	2	17	209
Music	30	14	23	1	2	4	—	73
Para-medical	11	29	17	28	33	—	—	119
Teacher education	34	46	22	25	39	9	17	192
Not classifiable	12	22	—	1	—	3	—	38
<i>Total—1979</i>	<i>262</i>	<i>452</i>	<i>180</i>	<i>131</i>	<i>179</i>	<i>31</i>	<i>77</i>	<i>1,312</i>
1978	232	390	172	106	140	38	67	1,145
1977	204	341	116	92	129	18	50	949
ALL STAFF								
Agriculture	73	9	31	25	14	—	—	153
Applied sciences	381	647	243	119	142	16	106	1,655
Art and design	282	441	54	87	67	29	—	961
Building, surveying and architecture	29	87	52	35	38	9	22	272
Commercial and business studies	253	505	200	66	136	20	58	1,239
Engineering and technology	76	387	132	75	72	16	—	758
Liberal studies	423	755	269	260	214	24	65	2,010
Music	105	66	34	2	10	26	—	242
Para-medical	80	197	53	109	127	—	—	566
Teacher education	678	575	290	291	258	87	67	2,246
Not classifiable	27	39	—	2	—	7	—	75
<i>Total—1979</i>	<i>2,407</i>	<i>3,707</i>	<i>1,358</i>	<i>1,072</i>	<i>1,078</i>	<i>235</i>	<i>318</i>	<i>10,175</i>
1978	2,328	3,592	1,333	1,085	1,073	248	303	9,962
1977	2,224	3,538	1,220	1,043	1,051	218	281	9,574

The above tables indicate that total staff at colleges of advanced education increased by about 6.3 per cent over the period 1977 to 1979 inclusive. However, full time staff only increased by 2.8 per cent, while a dramatic 38.3 per cent occurred for part-time staff. This very considerable increase reflects that found for students (see page 260).

Universities

The following university statistics provide details of the total number of students enrolled in university courses, the teaching staff engaged, and the number of students commencing and completing courses. The reference date for the statistics is 30 April except for students completing courses for whom the reference date is the year ended 30 June. For more detailed statistics, see the annual publications *University Statistics, Australia*, Parts 1 and 2 (4208.0 and 4209.0).

UNIVERSITIES: STUDENTS COMMENCING, 1979

	Doctorate	Master's degree	Bachelor degree	Non-degree	Total		
					Males	Females	Persons
New South Wales	363	2,001	15,728	3,076	12,483	8,685	21,168
Victoria	238	1,273	11,705	2,132	8,260	7,088	15,348
Queensland	156	498	5,525	763	3,738	3,204	6,942
South Australia	82	262	3,112	784	2,351	1,889	4,240
Western Australia	86	297	3,483	621	2,564	1,923	4,487
Tasmania	22	59	989	330	837	563	1,400
Australian Capital Territory	152	145	1,616	266	1,256	923	2,179
Australia—1979	1,099	4,535	42,158	7,972	31,489	24,275	55,764
1978	1,099	4,386	41,546	7,963	31,689	23,305	54,994
1977	1,071	4,465	40,358	8,160	31,639	22,415	54,054

UNIVERSITIES: FULL-TIME AND PART-TIME STUDENTS BY SEX AND COURSE LEVEL, 1977 TO 1979

Course level	Males			Females		
	1977	1978	1979	1977	1978	1979
FULL-TIME STUDENTS						
Doctorate	2,720	2,765	2,729	782	825	857
Master's degree	2,282	2,266	2,235	993	1,002	1,045
Bachelor degree	55,592	54,386	52,849	35,761	36,004	35,704
Non-degree	2,210	1,926	1,769	2,561	2,180	1,892
Total	62,804	61,343	59,582	40,097	40,011	39,498
PART-TIME STUDENTS						
Doctorate	1,641	1,766	1,823	352	439	515
Master's degree	7,296	7,431	7,741	2,364	2,670	2,957
Bachelor degree	20,623	21,075	21,497	15,382	17,409	19,172
Non-degree	4,579	4,603	4,611	3,273	3,288	3,414
Total	34,139	34,875	35,672	21,371	23,806	26,058
ALL STUDENTS						
Doctorate	4,361	4,531	4,552	1,134	1,264	1,372
Master's degree	9,578	9,697	9,976	3,357	3,672	4,002
Bachelor degree	76,215	75,461	74,346	51,143	53,413	54,876
Non-degree	6,789	6,529	6,380	5,834	5,468	5,306
Total	96,943	96,218	95,254	61,468	63,817	65,556

UNIVERSITIES: STUDENTS BY TYPE OF ENROLMENT AND FIELD OF STUDY, 1979

	Australia										
Field of study	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Males	Females	Persons	
FULL-TIME STUDENTS											
Humanities	8,922	6,179	2,503	2,307	1,726	645	1,463	9,369	14,376	23,745	
Fine arts	54	384	82	184	70	—	—	297	477	774	
Social and behavioural sciences	2,595	1,621	676	146	382	15	63	1,891	3,607	5,498	
Law	2,597	1,916	567	581	367	193	501	4,501	2,221	6,722	
Education	1,684	1,246	474	372	638	288	—	1,778	2,924	4,702	
Economics, commerce, government	4,632	3,410	769	680	718	187	424	7,991	2,829	10,820	
Medicine	3,598	2,584	2,319	1,125	721	337	25	6,598	4,111	10,709	
Dentistry	574	256	306	270	146	—	—	1,209	343	1,552	
Natural sciences	6,127	6,107	2,208	1,790	1,769	504	914	12,809	6,610	19,419	
Engineering, technology	4,465	2,158	996	570	605	153	—	8,537	410	8,947	
Architecture, building	1,324	544	205	181	101	—	2	1,825	532	2,357	
Agriculture, forestry	903	542	240	223	205	55	264	1,898	534	2,432	
Veterinary science	429	258	425	—	226	—	—	834	504	1,338	
Not stated	18	24	—	—	21	—	2	45	20	65	
Total—1979	37,922	27,229	11,770	8,429	7,695	2,377	3,658	59,582	39,498	99,080	
1978	39,012	27,512	12,081	8,700	7,810	2,514	3,725	61,343	40,011	101,354	
1977	39,473	28,064	11,966	9,037	7,694	2,685	3,982	62,804	40,097	102,901	
PART-TIME STUDENTS											
Humanities	7,416	5,033	4,396	1,766	1,655	430	1,315	8,828	13,183	22,011	
Fine arts	64	87	30	59	48	—	—	148	140	288	
Social and behavioural sciences	2,442	1,423	373	195	257	21	25	2,005	2,731	4,736	
Law	1,081	831	455	106	56	49	179	2,052	705	2,757	
Education	1,928	3,754	1,846	437	752	122	—	4,372	4,467	8,839	
Economics, commerce, government	4,422	1,833	1,365	745	587	187	493	7,911	1,721	9,632	
Medicine	267	240	118	254	32	5	—	558	358	916	
Dentistry	68	38	20	30	13	—	—	148	21	169	
Natural sciences	2,888	1,367	881	571	492	182	311	4,764	1,928	6,692	
Engineering, technology	2,098	363	249	127	159	46	—	2,937	105	3,042	
Architecture, building	719	272	71	48	10	—	—	930	190	1,120	
Agriculture, forestry	197	78	82	73	45	16	19	428	82	510	
Veterinary science	32	30	55	—	12	—	—	105	24	129	
Not stated	304	387	10	—	187	—	1	486	403	889	
Total—1979	23,926	15,736	9,951	4,411	4,305	1,058	2,343	35,672	26,058	61,730	
1978	22,736	14,446	9,877	4,204	4,289	1,003	2,126	34,875	23,806	58,681	
1977	22,167	12,613	9,547	4,353	4,079	840	1,911	34,139	21,371	55,510	
TOTAL STUDENTS											
Humanities	16,338	11,212	6,899	4,073	3,381	1,075	2,778	18,197	27,559	45,756	
Fine arts	118	471	112	243	118	—	—	445	617	1,062	
Social and behavioural sciences	5,037	3,044	1,049	341	639	36	88	3,896	6,338	10,234	
Law	3,678	2,747	1,022	687	423	242	680	6,553	2,926	9,479	
Education	3,612	5,000	2,320	809	1,390	410	—	6,150	7,391	13,541	
Economics, commerce, government	9,054	5,243	2,134	1,425	1,305	374	917	15,902	4,550	20,452	
Medicine	3,865	2,824	2,437	1,379	753	342	25	7,156	4,469	11,625	
Dentistry	642	294	326	300	159	—	—	1,357	364	1,721	
Natural sciences	9,015	7,474	3,089	2,361	2,261	686	1,225	17,573	8,538	26,111	
Engineering, technology	6,563	2,521	1,245	697	764	199	—	11,474	515	11,989	
Architecture, building	2,043	816	276	229	111	—	2	2,755	722	3,477	
Agriculture, forestry	1,100	620	322	296	250	71	283	2,326	616	2,942	
Veterinary science	461	288	480	—	238	—	—	939	528	1,467	
Not stated	322	411	10	—	208	—	3	531	423	954	
Total—1979	61,848	42,965	21,721	12,840	12,000	3,435	6,001	95,254	65,556	160,810	
1978	61,748	41,958	21,958	12,904	12,099	3,517	5,851	96,218	63,817	160,035	
1977	61,640	40,677	21,513	13,390	11,773	3,525	5,893	96,943	61,468	158,411	

UNIVERSITIES: TEACHING STAFF(a), BY FIELD OF TEACHING, 1979

<i>Field of teaching</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>A.C.T.</i>	<i>Aust.</i>
FULL-TIME STAFF								
Humanities	704	492	272	148	115	44	148	1,921
Fine arts	53	72	17	39	9	—	3	192
Social and behavioural sciences	429	190	118	85	92	33	43	989
Law	135	144	35	27	17	12	35	406
Education	243	199	76	47	63	17	—	645
Economics, commerce, government	509	292	118	97	74	31	53	1,172
Medicine	305	249	184	129	91	45	—	1,003
Dentistry	42	26	35	26	15	—	—	144
Natural sciences	951	625	405	273	201	87	119	2,659
Engineering, technology	482	200	113	48	55	24	—	922
Architecture, building	122	43	25	13	8	—	—	210
Agriculture, forestry	99	53	42	40	25	9	19	287
Veterinary science	47	35	53	—	42	—	—	177
Other(b)	27	—	39	—	—	—	—	66
<i>Total—1979</i>	<i>4,146</i>	<i>2,620</i>	<i>1,531</i>	<i>970</i>	<i>805</i>	<i>301</i>	<i>419</i>	<i>10,790</i>
1978	4,157	2,643	1,514	985	818	309	418	10,842
1977	4,084	2,590	1,491	979	775	298	405	10,622
PART-TIME STAFF (full-time equivalent units)								
Humanities	40	23	15	5	5	1	6	94
Fine arts	5	8	2	5	2	—	—	23
Social and behavioural sciences	38	12	6	4	7	1	3	70
Law	10	10	2	2	2	—	6	32
Education	59	21	2	2	6	3	—	93
Economics, commerce, government	34	15	2	4	2	1	3	62
Medicine	82	89	46	10	13	2	—	243
Dentistry	15	13	7	18	8	—	—	60
Natural sciences	111	115	24	47	36	6	10	349
Engineering and technology	40	18	9	7	5	1	—	80
Architecture, building	19	11	3	2	4	—	—	39
Agriculture, forestry	6	4	1	—	1	—	2	15
Veterinary science	2	1	2	—	1	—	—	6
Other(b)	8	—	2	—	—	—	—	10
<i>Total—1979</i>	<i>469</i>	<i>340</i>	<i>123</i>	<i>106</i>	<i>93</i>	<i>14</i>	<i>30</i>	<i>1,175</i>
1978	444	350	97	110	102	13	38	1,154
1977	469	349	90	117	105	11	33	1,175
ALL STAFF (full-time equivalent units) (c)								
Humanities	744	515	287	153	120	45	154	2,015
Fine arts	58	80	19	44	11	—	3	215
Social and behavioural sciences	467	202	124	89	99	34	46	1,059
Law	145	154	37	29	19	12	41	438
Education	302	220	78	49	69	20	—	738
Economics, commerce, government	543	307	120	101	76	32	56	1,234
Medicine	387	338	230	139	104	47	—	1,246
Dentistry	57	39	42	44	23	—	—	204
Natural sciences	1,062	740	429	320	237	93	129	3,008
Engineering and technology	522	218	122	55	60	25	—	1,002
Architecture, building	141	54	28	15	12	—	—	249
Agriculture, forestry	105	57	43	40	26	9	21	302
Veterinary science	49	36	54	—	43	—	—	183
Other(b)	35	—	41	—	—	—	—	76
<i>Total—1979</i>	<i>4,615</i>	<i>2,960</i>	<i>1,654</i>	<i>1,076</i>	<i>897</i>	<i>315</i>	<i>448</i>	<i>11,965</i>
1978	4,601	2,993	1,611	1,095	921	321	456	11,996
1977	4,553	2,940	1,582	1,096	879	309	438	11,797

(a) Excludes research only staff. (b) Includes staff teaching in the field of general studies and also a small number of staff unallocated to field of teaching. (c) The conversion of part-time staff to equivalent full-time units is made on the following basis: lecturer—250 hours per annum; and tutor/demonstrator—700 hours per annum.

The above tables indicate that total staff at universities increased by only about 1.4 per cent over the period 1977 to 1979 inclusive. The increase, unlike the situation with colleges of advanced education, was entirely attributable to full-time staff.

**UNIVERSITIES: STUDENTS COMPLETING DEGREE AND POST-GRADUATE DIPLOMA
COURSES BY FIELD OF STUDY, YEAR ENDED 30 JUNE 1979**

Field of study	Degrees			Post graduate diploma	Total
	Doctorate and Ph.D.	Master	Bachelor		
Humanities	158	332	8,270	61	8,821
Fine arts	3	6	119	—	128
Social and behavioural sciences	61	107	1,337	240	1,745
Law	6	80	1,519	69	1,674
Education	27	364	1,272	2,715	4,378
Economics, commerce, government	31	404	3,313	91	3,839
Medicine	114	12	2,149	84	2,359
Dentistry	5	39	246	3	293
Natural sciences	336	358	5,159	186	6,039
Engineering, technology	88	239	1,587	23	1,937
Architecture, building	4	71	569	45	689
Agriculture, forestry	68	106	370	42	586
Veterinary science	22	26	245	6	299
Not stated	4	—	—	—	4
Total—1979	927	2,144	26,155	3,565	32,791
1978	843	2,070	24,692	4,068	31,673
1977	800	1,935	23,812	4,066	30,613

STUDENT ASSISTANCE SCHEMES FUNDED BY THE DEPARTMENT OF EDUCATION

Scheme	Number of students 1979	Expenditure (\$'000) 1978–1979
Postgraduate Awards(a)	1,910	8,481
Tertiary Education Assistance(a)	83,617	156,206
Pre-school Teacher Education(a)	47	798
Postgraduate Awards—Social Work (a)	—	10
Secondary Allowances(b)	21,725	9,582
Adult Secondary Education Assistance(a)	2,149	4,735
Aboriginal Secondary Grants(a)	14,543	12,956
Aboriginal Study Grants(b)	7,202	5,166
Aboriginal Study Grants—Overseas(b)	10	93
Assistance for Isolated Children(a)	15,060	13,106
Non-State Tertiary Institutions	n.a.	3,119
Overseas Fellowships in Management(b)	7	83
Commonwealth Teaching Service Scholarships(a)	300	939
Total—1979	146,570	215,274
1978	145,727	206,078
1977	143,942	188,175

(a) For this scheme, the 'number of students' represents students receiving benefits at 30 June each year. (b) For this scheme the 'number of students' represents students receiving benefits at some time during the year.

Over the period 1977 to 1979 expenditure on student assistance schemes funded by the Department of Education increased by about 14.4 per cent and the number of students assisted by about 1.8 per cent.

Overseas students

Information on overseas students in Australia is given in Chapter 5, International Relations.

Expenditure on education

The aim of this section is to provide information on the extent and direction of both government and private expenditure on education in recent years. The figures have been compiled in accordance with national accounting concepts. For explanation of these concepts, reference should be made to *Australian National Accounts: National Income and Expenditure, 1978-79* (5204.0), and also to *Commonwealth Government Finance, Australia, 1979-80* (5502.0), and *State and Local Government Finance, Australia, 1978-79* (5504.0), from which figures included in this section have also been taken.

The emphasis given in this section to the outlays of the public sector reflects in part the relative importance of that sector in the provision of education services, but it is also a reflection of the lack of detailed information relating to educational activities in the private sector. Information is given, however, to show the order of magnitude of private sector spending, and also to show aggregate supply of education services and facilities.

Total expenditure on education

Total expenditure on education can be measured by adding together the final expenditures of the public and private sectors.

The figure derived for total expenditure on education can be regarded as a measure of the aggregate supply of education services and facilities and can therefore be related to the supply of goods and services available from domestic production (i.e. gross domestic product). Final consumption expenditure and capital expenditure on education, by sector, can also be related to gross domestic product. These relationships are shown in the following table.

AUSTRALIA: EXPENDITURE ON EDUCATION

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
— \$m —						
Public sector—						
Final consumption expenditure	1,909	2,766	3,427	4,117	4,656	5,064
Expenditure on new fixed assets	382	656	695	642	716	730
Final expenditure(1)	2,291	3,422	4,122	4,759	5,372	5,794
Transfer payments and expenditure on existing fixed assets (net)	231	292	351	374	391	393
Outlay	2,522	3,714	4,473	5,133	5,763	6,187
Private sector—						
Final consumption expenditure	208	200	218	243	255	268
Expenditure on new fixed assets	43	74	87	68	89	110
Final expenditure(2)	251	274	305	311	344	378
Total expenditure on education (1) + (2)	2,542	3,696	4,427	5,070	5,716	6,172
Gross domestic product	51,272	61,705	72,702	83,214	90,278	101,134
— per cent —						
Expenditure on education as percentage of gross domestic product—						
Final consumption expenditure—						
Public	3.7	4.5	4.7	4.9	5.2	5.0
Private	0.4	0.3	0.3	0.3	0.3	0.3
Expenditure on new fixed assets—						
Public	0.7	1.1	1.0	0.8	0.8	0.7
Private	0.1	0.1	0.1	0.1	0.1	0.1
Total expenditure	5.0	6.0	6.1	6.1	6.3	6.1

Private sector

Final expenditure on education by the private sector consists of private final consumption expenditure on education services, and expenditure on new fixed assets—mainly by private non-profit organisations and financed in part by grants from public authorities for private capital purposes. Private final consumption expenditure on education services is an estimate of fees paid by persons to government schools (mainly technical and agricultural colleges), fees and gifts to universities and school fees (other than boarding fees) paid to non-government schools, business colleges, etc. Expenditure on such items as school books, uniforms, etc., and expenditure by parents associations on school equipment is not included, being treated in the Australian National Accounts as private final consumption expenditure on other goods and services (such as clothing, books, household durables,

etc.). Private gross fixed capital expenditure in the field of education is estimated from statistics of the value of work done on new building and major additions to buildings of private educational institutions.

Public sector

The statistics presented here for the public sector relate to those outlays which have been identified as being primarily designed to serve the purposes of 'education', broadly as defined in the United Nations System of National Accounts. Included, therefore, are outlays on administration and regulation of school systems and institutions of higher learning and educational research; on provision, inspection and support of primary and secondary schools, colleges and universities, technical training institutions, schools for the handicapped, adult education facilities, pre-school centres, etc.; on scholarships, etc.; and on subsidiary services such as transportation of school children and fare concessions. Expenditure on school medical and dental services and provision of free milk for school-children are not included, as these are regarded as primarily serving the purpose of health.

The outlays of the public authorities engaged in providing education services or financing their provision by other bodies, public or private, have also been classified according to their economic type: final expenditure on goods and services (i.e. final consumption expenditure, and expenditure on new fixed assets); capital financing items (e.g. net expenditure on existing assets); transfers to the private sector (cash benefits, grants for private capital purposes) which become a source of finance for that sector's own final expenditures; and transfers between public authorities (Commonwealth Government grants to the States).

Detailed analyses have not been prepared of the accounts of all public authorities providing or financing education services, but methods of analysis have been adopted which reflect the net effect of the transactions of authorities not fully analysed (such as the State universities). Private non-profit organisations are covered by recording their final consumption expenditure as final expenditure by the public authorities and persons, i.e. the current grants to these organisations by public authorities are treated as public authorities' final expenditure and fees, donations, etc. paid to them by persons are included in private final consumption expenditure. Current outlay of non-profit organisations is therefore covered, being approximately equal to their income from grants and fees. For reasons of practicality, grants for capital purposes by public authorities to private non-profit organisations are treated as transfers, so that the capital expenditure of these organisations is wholly recorded in the private sector.

All public authorities

The outlay on education by all public authorities consists of the final expenditure on goods and services of the Commonwealth Government and State authorities and transfers by these authorities to the private sector. These figures are shown in the following table, and are related to the total outlay (on all functions) by all public authorities in order to give an indication of the share of government resources devoted to education.

ALL PUBLIC AUTHORITIES: OUTLAY ON EDUCATION

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
- \$ million -						
Commonwealth authorities—						
Final consumption expenditure	108.6	164.7	195.1	234.6	255.8	287.0
Cash benefits to persons	93.8	124.3	162.5	194.0	212.6	224.9
Grants for private capital purposes	1.7	5.6	5.5	3.5	4.2	4.0
Expenditure on new fixed assets	32.1	45.1	73.4	62.2	54.2	50.5
Expenditure on existing fixed assets (net)	-0.5	-0.2	-0.3	-0.5	—	—
Grants to States—						
Current	433.4	910.4	1,133.8	1,390.8	1,517.8	1,592.3
Capital	189.1	415.5	319.2	327.8	343.1	363.7
<i>Total Commonwealth</i>	858.2	1,665.4	1,889.2	2,212.3	2,387.7	2,522.4
State authorities—						
Final consumption expenditure	1,797.3	2,596.3	3,224.6	3,874.1	4,389.2	4,764.3
Cash benefits to persons	104.1	111.7	124.1	124.0	120.8	105.9
Grants for private capital purposes	13.7	31.7	33.0	25.4	32.2	40.4
Expenditure on new fixed assets	349.0	609.2	618.2	574.2	659.9	677.8
Expenditure on existing fixed assets (net)	18.9	19.1	26.9	29.0	21.3	17.8
Grants to local government authorities	2.2	5.7	6.8	11.1	9.8	9.4
<i>Total State</i>	2,285.0	3,373.5	4,033.5	4,637.9	5,233.2	5,615.6
Less Grants from the Commonwealth Government for educational purposes	622.5	1,325.9	1,453.1	1,718.5	1,860.9	1,956.0
Outlay financed from States' own resources and from non-specific Commonwealth Government grants	1,662.5	2,047.6	2,580.4	2,919.4	3,372.3	3,659.6
Local authorities—						
Final consumption expenditure	2.9	4.6	7.4	8.5	11.1	12.7
Expenditure on new fixed assets	0.7	1.9	3.2	4.2	1.5	1.5
<i>Total local</i>	3.6	6.5	10.6	12.6	12.6	14.2
Less Grants from State authorities for education purposes	2.2	5.7	6.8	11.1	9.8	9.4
Outlay financed from local authorities own resources	1.3	0.8	3.8	1.5	2.8	4.8
<i>Total outlay on education</i>	2,522.0	3,713.8	4,473.4	5,133.2	5,762.8	6,186.8
<i>Total outlay on all purposes</i>	16,221.0	22,880.1	27,585.2	31,752.7	35,781.6	38,766.6
- per cent -						
Outlay on education as percentage of total outlay	15.5	16.2	16.3	16.2	16.1	16.0

Commonwealth authorities

Details of outlay on education by authorities of the Commonwealth Government are given in the following table.

COMMONWEALTH AUTHORITIES: OUTLAY ON EDUCATION

	1976-77	1977-78	1978-79
-\$ million-			
General administration, regulation and research—			
Department of Education—			
Salaries, etc., n.e.c.	18.8	18.5	20.4
Administration expenses, n.e.c.	7.8	8.0	8.9
Tertiary Education Commission	—	0.7	1.7
Building and works, office equipment, etc.	—	0.3	0.1
Grants to the States—			
Research and development	1.0	1.7	0.9
Other	0.7	0.8	0.5
<i>Total general administration, etc.</i>	28.3	30.0	32.6
Transportation of students—			
School bus service—			
Australian Capital Territory	1.8	1.9	2.1
Northern Territory	1.0	1.2	1.3
<i>Total transportation</i>	2.7	3.1	3.4
Primary and secondary education—			
Schools Commission	2.8	3.1	3.4
Education services—			
Australian Capital Territory	64.8	64.2	66.4
Northern Territory	38.0	40.7	46.0
School broadcasts	1.9	2.0	2.0
Student assistance	7.0	9.2	9.9
Child migrant education program	1.0	0.6	0.7
Assistance to isolated children	11.7	14.1	13.1
Grants to non-government schools—			
Australian Capital Territory	9.9	12.0	12.9
Northern Territory	1.4	1.8	2.4
Grants to the States—			
Non-government schools—Recurrent grants	171.7	191.3	221.9
Non-government schools—Capital grants	19.9	32.0	38.4
Government schools—Recurrent grants	225.8	235.5	242.5
Government schools—Capital grants	127.2	151.2	140.5
Child migrant education(a)	0.2	0.3	1.9
Schools—joint programs	24.9	29.0	27.0
Other	0.4	0.8	0.6
<i>Total primary and secondary</i>	708.7	787.7	829.6
Vocational Training—			
Commission on Technical and Further Education	0.6	0.3	—
Canberra School of Music	—	—	—
Technical and Further Education in the A.C.T.	13.7	15.2	16.8
Darwin Community College	6.7	9.3	10.0
Student assistance	23.8	25.6	29.3
Grants to the States—TAFE—			
Apprentice training	—	—	—
Recurrent grants	44.2	45.6	65.0
Other Capital grants	33.7	46.4	51.7
Other	0.6	1.0	0.9
<i>Total vocational training</i>	123.2	143.4	173.7
University education—			
Australian Universities Commission	0.7	0.3	—
Australian National University—			
Student assistance	1.8	2.1	2.4
Other	70.1	67.9	75.6
Student assistance—			
Undergraduate	66.9	71.7	74.4
Postgraduate	8.6	9.4	9.0
Grants to Australian National University residential colleges	0.2	0.1	0.1
School of Public Health and Tropical Medicine (Sydney University)	2.1	2.3	2.6
Grants to the States—Universities	568.5	626.9	645.7
Other	0.3	0.2	—
<i>Total university</i>	719.2	781.0	810.0

For footnote see end of table.

COMMONWEALTH AUTHORITIES: OUTLAY ON EDUCATION—*continued*

	1976-77	1977-78	1978-79
	—\$ million—		
Other higher education—			
Commission on Advanced Education	0.7	0.3	—
Canberra College of Advanced Education	14.5	16.7	15.2
Canberra School of Music	1.1	1.0	0.9
Australian Film and Television School	3.6	3.7	3.8
Student assistance	50.9	53.0	55.5
Commonwealth Teaching Service scholarships	1.3	1.2	0.9
Grants to the States	446.4	449.5	481.7
Other	1.0	1.0	4.2
<i>Total other higher education</i>	<i>519.5</i>	<i>526.3</i>	<i>562.2</i>
Other education programs—			
Aboriginal education—			
Study grants	2.3	3.6	5.2
Secondary grants	10.0	12.1	13.0
Grants to private non-profit organisations	3.9	4.5	6.0
Grants to the States	5.9	6.4	6.2
Other	17.5	18.0	18.1
Soldiers' children education scheme	3.5	3.4	2.9
Migrant education programs	9.0	13.1	18.8
Pre-school programs—			
Grants to States and local authorities	49.0	45.9	32.7
Other	2.8	3.2	3.0
Adult education programs	4.6	5.0	4.8
Queen's Silver Jubilee Appeal	2.0	—	—
Other	0.1	1.0	0.3
<i>Total other programs</i>	<i>110.7</i>	<i>116.2</i>	<i>111.0</i>
Total outlay on education	2,212.3	2,387.7	2,522.4
<i>of which—</i>			
Current outlay	1,819.3	1,984.8	2,103.1
Capital outlay	393.0	402.9	419.3
Total outlay on all purposes	24,111.4	26,881.6	28,910.8
	—per cent—		
Outlay on education as a percentage of total outlay	9.2	8.9	8.7

(a) From January 1976 grants to the States for child migrant education under the Schools Commission program are included under various other grants to the States for schools.

As may be seen from the table, Commonwealth Government outlays are directed largely towards financing outlays on education by the States and the private sector. Direct expenditure by the Commonwealth Government relates mainly to the costs of administering its support programs and its own educational research activities, the provision of education services in the internal territories, expenditures of statutory bodies (i.e. the Australian National University, the Canberra College of Advanced Education, and the Australian Broadcasting Commission), expenditure on the education of Aborigines by the Northern Territory administration, and the costs of the child migrant education program.

COMMONWEALTH AUTHORITIES: CASH BENEFITS TO PERSONS FOR EDUCATION

(\$'000)

	1976-77	1977-78	1978-79
Primary and secondary education—			
Student assistance	6,885	9,013	9,582
Australian Capital Territory and Northern Territory scholarships and allowances	116	180	269
Assistance to isolated children	11,689	14,097	13,106
United world colleges scholarships	5	10	10
<i>Total</i>	<i>18,695</i>	<i>23,300</i>	<i>22,967</i>
Vocational training—			
Student assistance	23,756	25,574	29,258
University education—			
Australian National University scholarships	1,846	2,171	2,432
Student assistance—			
Post-graduate	8,600	9,404	8,962
Under-graduate	66,367	71,240	74,057
Australian Agricultural Council scholarships	74	46	17
Wool research studentships	202	276	240
Forestry scholarships	80	55	41
Other	182	132	82
<i>Total</i>	<i>77,351</i>	<i>83,324</i>	<i>85,831</i>
Other higher education—			
Student assistance	44,507	47,754	51,564
Commonwealth Teaching Service scholarships	1,305	1,184	939
Pre-school teaching scholarships	3,219	2,041	798
Non government institutions—fees	3,128	3,152	3,119
Other	20	22	21
<i>Total</i>	<i>52,179</i>	<i>54,153</i>	<i>56,441</i>
Other education programs—			
Aboriginal study grants	2,338	3,635	5,209
Aboriginal secondary grants	10,002	12,073	12,956
Soldiers' children education scheme	3,468	3,390	2,941
Adult secondary education assistance	4,596	4,935	4,735
Assistance to Vietnamese and Cambodian students	73	34	12
Migrant education services	1,503	2,228	4,578
Other	9	—	—
<i>Total</i>	<i>21,989</i>	<i>26,296</i>	<i>30,431</i>
Total education	193,970	212,647	224,928

Outlay on education in the internal territories

As mentioned previously, the Commonwealth Government is responsible for the provision of education services in the Australian Capital Territory and until 1 July 1979 in the Northern Territory. Details of Commonwealth Government outlay on education in the Territories are given below; further information may be found in Chapter 27, The Territories of Australia.

COMMONWEALTH AUTHORITIES: OUTLAY ON EDUCATION IN THE INTERNAL TERRITORIES, 1978-79

<i>Australian Capital Territory</i>	<i>\$'000</i>	<i>Northern Territory</i>	<i>\$'000</i>
Current Outlay—		Current Outlay—	
Government schools and pre-schools(a)—		Government schools and pre-schools—	
Salaries and wages	53,951	Salaries and wages	38,057
Transportation of students	2,064	Transportation of students	1,485
Contract school cleaning	2,921	Contract school cleaning	1,190
Repairs and maintenance	1,541	Repairs and maintenance	2,763
Other	5,969	Other	8,605
Non-government schools assistance—		Less Aboriginal education included in above items	15,131
Per capita grants	8,596	Total	36,969
Interest subsidy	1,113	Non-government schools assistance—	
Other grants and allowances	313	Per capita grants	1,510
Technical and further education—		Interest subsidy	140
Canberra School of Music	939	Other grants and allowances	—
Canberra School of Art	798	Aboriginal education—	
Other TAFE Colleges	8,602	Assistance to mission schools	2,083
Canberra College of Advanced Education	14,226	Government school system	15,131
Total	101,033	Darwin Community College—	
Less Fees	438	Salaries and wages	7,015
Total current outlay	100,595	Other	—
Capital outlay—		Total	62,848
Government schools and colleges—		Less Fees	289
By National Capital Development Commission—		Total current outlay	62,559
Primary and Pre-schools	2,784	Capital outlay—	
Secondary schools	5,390	Buildings and works—	
Technical Colleges	7,277	Darwin Reconstruction Commission—	
Other educational buildings	2,266	Aboriginal education	—
By Department of Construction—		Government schools and pre-schools	—
Buildings and works	34	Darwin Community College	—
Furniture and fittings	832	Department of Construction—	
Plant and equipment	1,153	Aboriginal education	2,715
Canberra College of Advanced Education	932	Government schools and pre-schools	14,829
Non-government schools assistance—		Furniture and fittings, plant and equipment—	
approved capital programs(b)	2,872	Aboriginal education	372
Total capital outlay	23,540	Other	1,511
Total outlay(c)	124,135	Non-government schools assistance—	
		Approved capital programs(b)	705
		Assistance to aboriginal missions	—
		Total capital outlay	20,132
		Total outlay	82,691

(a) Includes pre-school running expenses \$2,694,000. (b) Grants for private capital purposes. (c) Excludes the Australian National University. Commonwealth Government payments to the University in 1978-79 amounted to \$81,408,000 for current purposes and \$366,000 for capital purposes.

State and local authorities

The following table shows the outlay on education by State and local authorities, financed from their own resources (including general purpose grants from the Commonwealth Government) and from Commonwealth Government grants for educational purposes.

STATE AND LOCAL AUTHORITIES: OUTLAY ON EDUCATION

(\$ million)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Final consumption expenditure—						
New South Wales	622.7	903.9	1,103.0	1,304.6	1,465.1	1,601.8
Victoria	537.6	765.8	946.5	1,153.6	1,316.9	1,422.8
Queensland	231.0	334.4	433.1	520.3	593.0	634.5
South Australia	189.7	270.9	341.6	413.4	473.3	508.2
Western Australia	158.7	233.9	299.3	362.1	406.0	448.3
Tasmania	60.4	91.9	108.5	128.6	146.0	161.3
<i>Total</i>	1,800.2	2,600.9	3,232.0	3,882.6	4,400.3	4,777.0
Expenditure on new fixed assets—						
New South Wales	111.5	208.6	229.0	173.7	219.8	231.6
Victoria	100.5	170.9	169.7	157.8	169.5	188.8
Queensland	48.0	85.8	74.1	99.9	102.2	95.7
South Australia	41.1	69.3	62.1	66.2	76.2	73.1
Western Australia	32.3	53.3	54.1	51.5	63.4	63.2
Tasmania	16.4	23.2	32.4	29.3	30.2	26.9
<i>Total</i>	349.7	611.1	621.3	578.4	661.4	679.3
Expenditure on existing fixed assets (net)	18.9	19.1	26.9	29.0	21.3	17.8
Cash benefits to persons	104.1	111.7	124.1	124.0	120.8	105.9
Grants for private capital purposes	13.7	31.7	33.0	25.4	32.2	40.4
Total outlay on education	2,286.3	3,374.3	4,037.3	4,639.4	5,236.0	5,620.4
<i>of which—</i>						
New South Wales	784.2	1,165.6	1,394.1	1,543.5	1,754.8	1,905.0
Victoria	685.7	994.4	1,183.3	1,370.9	1,537.6	1,652.4
Queensland	295.4	443.0	533.2	648.8	725.0	760.8
South Australia	242.1	354.0	416.4	488.4	556.6	588.2
Western Australia	198.4	297.5	363.2	422.2	478.3	518.4
Tasmania	80.6	119.7	147.2	165.6	183.7	195.6

Specific grants to the States for educational purposes

Financial assistance to the States specifically for education purposes constitutes the major item of outlay on education by the Commonwealth Government. The following table summarises the allocation of the various categories of grants to the States for recent years. Subsequent tables show the allocation of these specific purpose grants to individual States for the same period.

GRANTS TO STATES FOR EDUCATIONAL PURPOSES

(\$'000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
GRANTS FOR CURRENT PURPOSES						
Schools	85,661	234,579	331,884	421,758	455,622	491,395
Technical and further education	10,268	24,622	40,127	44,194	45,600	51,741
Colleges of Advanced Education	124,808	239,249	286,766	368,894	395,501	413,497
Universities	200,042	377,990	426,389	511,556	574,465	594,587
Aboriginal education	2,174	3,367	4,978	5,561	6,204	5,810
Child migrant education (a)	6,014	9,845	7,370	140	278	1,740
Pre-school education	4,063	19,954	35,232	37,643	39,362	32,750
Educational research	406	786	1,062	1,012	809	801
<i>Total</i>	<i>433,437</i>	<i>910,391</i>	<i>1,133,806</i>	<i>1,390,758</i>	<i>1,517,841</i>	<i>1,592,321</i>
GRANTS FOR CAPITAL PURPOSES						
Schools	75,976	199,368	143,631	147,766	183,458	178,956
Technical and further education	18,381	20,375	24,600	33,709	46,425	64,970
Colleges of Advanced Education	40,112	109,916	86,753	77,555	54,006	68,155
Universities	48,966	65,990	48,827	56,958	52,392	51,143
Aboriginal education	2,218	1,224	1,966	361	195	364
Child migrant education (a)	995	1,478	1,670	39	—	129
Pre-school education	2,416	17,123	11,797	11,375	6,632	—
<i>Total</i>	<i>189,064</i>	<i>415,473</i>	<i>319,246</i>	<i>327,763</i>	<i>343,108</i>	<i>363,717</i>
TOTAL GRANTS						
Schools	161,637	433,947	475,515	569,524	639,080	670,351
Technical and further education	28,649	44,997	64,727	77,903	92,025	116,711
Colleges of Advanced Education	164,920	349,165	373,519	446,449	449,507	481,652
Universities	249,008	443,980	475,216	568,514	626,857	645,730
Aboriginal education	4,392	4,591	6,944	5,922	6,399	6,174
Child migrant education (a)	7,009	11,323	9,040	179	278	1,869
Pre-school education	6,479	37,077	47,029	49,018	45,994	32,750
Educational research	406	786	1,062	1,012	809	801
<i>Total</i>	<i>622,501</i>	<i>1,325,864</i>	<i>1,453,052</i>	<i>1,718,521</i>	<i>1,860,950</i>	<i>1,956,039</i>

(a) Grants for child migrant education under the Schools Commission program, commencing January 1976, are included under 'schools'.

TOTAL GRANTS TO STATES FOR SCHOOLS

(\$'000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Current grants—						
New South Wales	28,147	84,749	125,395	151,153	171,540	180,739
Victoria	29,125	72,112	100,354	134,939	138,250	152,062
Queensland	13,578	35,604	46,162	56,058	59,853	66,818
South Australia	6,464	19,017	27,452	35,038	38,566	39,746
Western Australia	6,389	17,184	23,194	33,521	35,293	38,741
Tasmania	1,958	5,912	9,327	11,049	12,120	13,290
<i>Total</i>	<i>85,661</i>	<i>234,579</i>	<i>331,884</i>	<i>421,758</i>	<i>455,622</i>	<i>491,395</i>
Capital grants—						
New South Wales	30,208	71,708	45,886	48,683	57,953	58,954
Victoria	18,011	58,651	49,285	45,056	51,274	48,993
Queensland	8,990	27,968	22,363	28,090	34,264	29,475
South Australia	9,430	19,160	11,056	14,672	17,068	16,178
Western Australia	6,810	15,789	10,564	6,999	16,713	20,971
Tasmania	2,527	6,092	4,477	4,266	6,187	4,385
<i>Total</i>	<i>75,976</i>	<i>199,368</i>	<i>143,631</i>	<i>147,766</i>	<i>183,458</i>	<i>178,956</i>
Total grants—						
New South Wales	58,355	156,457	171,281	199,836	229,493	239,693
Victoria	47,136	130,763	149,639	179,995	189,524	201,055
Queensland	22,568	63,572	68,525	84,148	94,117	96,293
South Australia	15,894	38,177	38,508	49,710	55,634	55,924
Western Australia	13,199	32,973	33,758	40,520	52,006	59,712
Tasmania	4,485	12,004	13,804	15,315	18,307	17,675
<i>Total</i>	<i>161,637</i>	<i>433,947</i>	<i>475,515</i>	<i>569,524</i>	<i>639,080</i>	<i>670,351</i>

TOTAL GRANTS TO STATES FOR TECHNICAL AND FURTHER EDUCATION

(\$'000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Current grants—						
New South Wales	5,801	10,333	17,652	16,714	19,184	21,061
Victoria	1,772	6,794	9,653	13,866	11,163	13,509
Queensland	715	2,262	4,643	4,537	4,885	5,222
South Australia	889	2,639	3,770	4,502	4,737	5,116
Western Australia	974	2,168	3,322	3,606	4,521	5,160
Tasmania	117	426	1,087	969	1,110	1,673
<i>Total</i>	<i>10,268</i>	<i>24,622</i>	<i>40,127</i>	<i>44,194</i>	<i>45,600</i>	<i>51,741</i>
Capital grants—						
New South Wales	6,873	5,859	8,919	12,262	15,162	19,279
Victoria	5,500	6,585	7,376	9,333	12,728	19,592
Queensland	1,945	4,073	3,334	4,439	8,735	15,078
South Australia	2,063	2,800	1,208	2,320	4,837	6,901
Western Australia	1,311	587	2,876	3,690	2,993	3,726
Tasmania	689	471	887	1,665	1,970	394
<i>Total</i>	<i>18,381</i>	<i>20,375</i>	<i>24,600</i>	<i>33,709</i>	<i>46,425</i>	<i>64,970</i>
Total grants—						
New South Wales	12,674	16,192	26,571	28,976	34,346	40,340
Victoria	7,272	13,379	17,029	23,199	23,891	33,101
Queensland	2,660	6,335	7,977	8,976	13,620	20,300
South Australia	2,952	5,439	4,978	6,822	9,574	12,017
Western Australia	2,285	2,755	6,198	7,296	7,514	8,886
Tasmania	806	897	1,974	2,634	3,080	2,067
<i>Total</i>	<i>28,649</i>	<i>44,997</i>	<i>64,727</i>	<i>77,903</i>	<i>92,025</i>	<i>116,711</i>

**TOTAL GRANTS TO STATES FOR COLLEGES OF ADVANCED EDUCATION AND TEACHERS
COLLEGES**

(\$'000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Current grants—						
New South Wales	28,935	62,122	69,089	90,831	98,303	105,103
Victoria	46,711	86,119	111,307	135,960	141,522	146,456
Queensland	14,438	27,230	33,999	48,962	56,616	60,465
South Australia	13,518	24,531	28,838	38,221	41,724	42,477
Western Australia	17,247	32,359	36,522	46,242	48,080	49,560
Tasmania	3,959	6,888	7,011	8,678	9,256	9,436
Total	124,808	239,249	286,766	368,894	395,501	413,497
Capital grants—						
New South Wales	7,644	41,197	23,716	27,200	11,886	20,070
Victoria	13,680	32,452	34,313	25,971	18,968	23,112
Queensland	5,078	13,438	9,181	14,630	7,899	10,712
South Australia	6,196	12,579	6,886	4,276	8,457	5,177
Western Australia	7,222	7,281	7,344	5,074	5,198	5,863
Tasmania	292	2,969	5,313	404	1,598	3,221
Total	40,112	109,916	86,753	77,555	54,006	68,155
Total grants—						
New South Wales	36,579	103,319	92,805	118,031	110,189	125,173
Victoria	60,391	118,571	145,620	161,931	160,490	169,568
Queensland	19,516	40,668	43,180	63,592	64,515	71,177
South Australia	19,714	37,110	35,724	42,497	50,181	47,654
Western Australia	24,469	39,640	43,866	51,316	53,278	55,423
Tasmania	4,251	9,857	12,324	9,082	10,854	12,657
Total	164,920	349,165	373,519	446,449	449,507	481,652

TOTAL GRANTS TO STATES FOR UNIVERSITIES

(\$'000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Current grants—						
New South Wales	79,572	149,997	168,831	199,633	222,893	230,197
Victoria	53,468	99,798	110,717	134,763	152,808	158,860
Queensland	26,169	49,876	57,185	69,427	78,127	80,980
South Australia	19,808	38,067	43,107	51,000	56,872	57,917
Western Australia	14,610	27,978	32,891	40,795	46,532	48,318
Tasmania	6,415	12,274	13,658	15,938	17,234	18,315
Total	200,042	377,990	426,389	511,556	574,465	594,587
Capital grants—						
New South Wales	16,889	22,526	21,754	17,553	17,910	21,840
Victoria	14,128	17,330	9,516	10,460	11,842	10,849
Queensland	5,624	9,821	6,453	11,638	7,335	6,042
South Australia	7,050	7,320	3,421	6,426	6,635	6,439
Western Australia	4,581	7,714	5,094	9,822	7,664	5,185
Tasmania	694	1,279	2,589	1,061	1,008	788
Total	48,966	65,990	48,827	56,958	52,392	51,143
Total grants—						
New South Wales	96,461	172,523	190,585	217,186	240,802	252,037
Victoria	67,596	117,128	120,233	145,223	164,650	169,708
Queensland	31,793	59,697	63,638	81,065	85,462	87,022
South Australia	26,858	45,387	46,528	57,426	63,507	64,356
Western Australia	19,191	35,692	37,985	50,617	54,196	53,503
Tasmania	7,109	13,553	16,247	16,999	18,242	19,103
Total	249,008	443,980	475,216	568,514	626,857	645,730

TOTAL GRANTS TO STATES FOR ABORIGINAL EDUCATION

(\$'000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Current grants—						
New South Wales	482	546	904	931	1,013	690
Victoria	275	262	212	576	634	633
Queensland	193	361	866	836	858	904
South Australia	489	614	990	1,151	1,479	1,560
Western Australia	732	1,582	1,979	2,035	2,184	1,996
Tasmania	4	3	27	32	36	28
<i>Total</i>	2,174	3,367	4,978	5,561	6,204	5,810
Capital grants—						
New South Wales	101	—	505	1	—	—
Victoria	—	67	87	—	—	—
Queensland	988	249	971	8	84	57
South Australia	625	108	377	233	50	149
Western Australia	505	799	25	119	61	159
Tasmania	—	—	1	—	—	—
<i>Total</i>	2,218	1,224	1,966	361	195	364
Total grants—						
New South Wales	583	546	1,409	932	1,013	690
Victoria	275	329	299	576	634	633
Queensland	1,181	610	1,837	844	942	961
South Australia	1,114	722	1,367	1,384	1,529	1,709
Western Australia	1,237	2,381	2,004	2,154	2,245	2,155
Tasmania	4	3	28	32	36	28
<i>Total</i>	4,392	4,591	6,944	5,922	6,399	6,174

GRANTS TO STATES FOR CHILD MIGRANT EDUCATION

(Excluding grants under the Schools Commission program, commencing January 1976)

(\$'000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Current grants—						
New South Wales	2,238	3,890	2,720	67	165	727
Victoria	2,732	4,482	3,559	46	41	521
Queensland	165	255	195	2	15	172
South Australia	587	810	514	22	16	180
Western Australia	157	229	233	2	41	140
Tasmania	135	179	149	2	—	—
<i>Total</i>	6,014	9,845	7,370	140	278	1,740
Capital grants—						
New South Wales	90	475	405	2	—	—
Victoria	550	709	943	5	—	88
Queensland	50	106	11	—	—	40
South Australia	165	92	275	31	—	—
Western Australia	100	89	—9	—	—	—
Tasmania	40	6	45	—	—	—
<i>Total</i>	995	1,478	1,670	39	—	129
Total grants—						
New South Wales	2,328	4,365	3,125	69	165	727
Victoria	3,282	5,191	4,502	51	41	609
Queensland	215	361	206	2	15	212
South Australia	752	902	789	53	16	180
Western Australia	257	318	224	2	41	140
Tasmania	175	185	194	2	—	—
<i>Total</i>	7,009	11,323	9,040	179	278	1,869

TOTAL GRANTS TO STATES FOR RECURRENT EXPENDITURE ON EDUCATIONAL RESEARCH
(S'000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Current grants—						
New South Wales	97	151	253	259	184	159
Victoria	142	227	431	314	240	302
Queensland	109	296	190	216	166	131
South Australia	18	58	116	139	135	124
Western Australia	26	33	59	70	75	74
Tasmania	14	21	14	14	9	11
Total	406	786	1,062	1,012	809	801

TOTAL GRANTS TO STATES FOR PRE-SCHOOL EDUCATION
(S'000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Current grants—						
New South Wales	821	4,030	7,117	7,604	7,934	7,130
Victoria	1,260	6,186	10,922	11,668	12,244	9,015
Queensland	719	3,532	6,236	6,663	6,958	6,605
South Australia	536	2,634	4,651	4,969	5,194	3,730
Western Australia	528	2,594	4,580	4,894	5,110	4,860
Tasmania	199	978	1,726	1,845	1,922	1,410
Total	4,063	19,954	35,232	37,643	39,362	32,750
Capital grants—						
New South Wales	160	4,819	3,165	6,592	3,053	—
Victoria	288	2,637	1,345	4,160	3,500	—
Queensland	1,003	3,806	2,584	314	—	—
South Australia	514	2,773	1,498	160	—	—
Western Australia	166	1,911	1,441	144	79	—
Tasmania	285	1,177	1,764	5	—	—
Total	2,416	17,123	11,797	11,375	6,632	—
Total grants—						
New South Wales	981	8,849	10,282	14,196	10,987	7,130
Victoria	1,548	8,823	12,267	15,828	15,744	9,015
Queensland	1,722	7,338	8,820	6,977	6,958	6,605
South Australia	1,050	5,407	6,149	5,129	5,194	3,730
Western Australia	694	4,505	6,021	5,038	5,189	4,860
Tasmania	484	2,155	3,490	1,850	1,922	1,410
Total	6,479	37,077	47,029	49,018	45,994	32,750

CHAPTER 13

AGRICULTURAL INDUSTRIES

This chapter is divided into the following major parts:—Introduction; Sources of statistics and definitions of units; Structural statistics (provides data on the legal arrangements, size and industry class of the business organisations operating within the agricultural sector); Value of agricultural commodities produced and indexes of values at constant prices and average unit values; Apparent consumption of foodstuffs and nutrients; Land tenure and land utilisation; Crop statistics; Livestock statistics; Livestock products; Agricultural improvements and employment.

Introduction

The development of Australian agricultural industries has been determined by interacting factors such as profitable markets, the opening up of new land (including the development of transport facilities) and technical and scientific achievements. Subsistence farming, recurring gluts, low prices and losses to farmers were gradually overcome by the development of an export trade. Profitable overseas markets for merino wool and wheat, and the introduction of storage and refrigerated shipping for the dairying and meat industry combined to make the agricultural sector Australia's main export earner. Until the late 1950's, agricultural products comprised more than 80 per cent of the value of Australia's exports. Since then, the proportion of Australia's exports coming from the agricultural sector has declined markedly.

However, this decline in importance has been due not to a decline in agricultural activity but rather to an increase in the quantity and values of the exports of the mining and manufacturing sectors. In fact, the agricultural sector experienced an increase in total output over that period. One interesting aspect of this increase in output is that it was accompanied by a large reduction in the size of the agricultural labour force, implying a large growth in productivity within the sector.

Sources of statistics and definitions of units

Agricultural Census

The major source of the statistics in this chapter is the Agricultural Census conducted at 31 March each year. This collects a wide range of information from agricultural establishments with agricultural activity covering the physical aspects of agriculture such as area and production of crops, fertilisers used, number of livestock disposed of, etc. In conjunction with the census, certain supplementary collections are conducted in some States where this has proved expedient, e.g. where the harvesting of certain crops has not been completed by 31 March (apples, potatoes, etc.), special returns covering the crops concerned are collected after the completion of the harvest.

In recent years, the ABS has been gradually excluding from the statistics those establishments whose contribution to agricultural production is small. While this has resulted in changes to the number of establishments appearing in publications the effect on the statistics of production of major commodities is small. Statistics of minor commodities normally associated with small scale operations may be affected to a greater extent.

From 1980, establishments with agricultural activity have been included in the statistics if the enterprises operating the establishments had or were expected to have estimated value of agricultural operations of \$1,500 or more during the current season.

Details of the method used in the calculation of the estimated value of agricultural operations are contained in the publication *Agricultural Sector: Structure of Operating Units, Australia* (7102.0). Prior to 1975–76, all agricultural establishments with areas of one hectare or more were included. In addition, establishments of less than one hectare tended to be included where significant agricultural activity was undertaken, e.g. poultry farms, commercial market gardens and nurseries.

Integrated Agricultural Register

The Agricultural Census is one of the sources of information used to update the Integrated Agricultural Register (IAR). The IAR contains information about the area, type, legal status, level of activity and location of units engaged in agriculture, and is used for the despatch of most of the agricultural statistical collections. The IAR was originally compiled by adding data in a special census of

economic units conducted in 1974 to existing data relating to physical characteristics of agricultural establishments. Details of the structure of economic units engaged in agriculture are compiled from the IAR. These economic units, in hierarchical order, are:

- *Enterprise* (the second level of economic unit). The enterprise is that unit comprising all operations in Australia of a single operating legal entity. (The term 'single legal entity' means a sole trader, partnership, company, trust, co-operative or estate in the private sector, or a department, local government authority or statutory authority in the government sector). For the agricultural sector, a 'multi-State enterprise' is an enterprise which belongs to an enterprise group which undertakes agricultural activities in more than one State.
- *Establishment* (the smallest economic unit). The establishment covers all operations carried out by one enterprise at a single physical location.

Other Statistical Collections

The ABS conducts a number of other collections to obtain agricultural statistics. These include collections from wool brokers and dealers, livestock slaughterers and other organisations involved in the marketing and selling of agricultural commodities.

Structural statistics

The following tables provide information relating to the structure of operating units during 1978-79. Although the definitions of the operating units have been provided above, the following terminology is also used:

- *Industry*. As set out in the *Australian Standard Industrial Classification* (ASIC) (1201.0 and 1202.0). These publications provide details of the methodology used in determining the industry class of an economic unit.
- *Estimated Value of Agricultural Operations* (EVAO). This is determined by valuing the physical crop and livestock information collected in the Agricultural Census.

A further explanation of this terminology and more detailed statistics are given in the publication *Agricultural Sector: Structure of Operating Units, Australia* (7102.0).

NUMBER OF UNITS BY TYPE OF UNIT, 1978-79

Unit	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Australia(a)
Agricultural establishments . . .	50,369	48,847	34,440	19,978	17,144	6,143	177,218
Agricultural enterprises	48,562	47,536	32,867	19,391	16,065	5,847	170,989

(a) Includes enterprises in the Northern Territory, Australian Capital Territory and multi-State enterprises.

AGRICULTURAL ENTERPRISES, INDUSTRY AND ESTIMATED VALUE OF OPERATIONS: 1978-79

ASIC Code (1978 edition)	Industry of enterprise	Estimated value of operations (\$'000)											Total
		2-9	10-19	20-29	30-39	40-49	50-59	60-74	75-99	100-149	150-199	200+	
0124	Poultry for meat	72	83	105	95	60	44	43	38	31	18	36	625
0125	Poultry for eggs	120	105	92	84	76	65	99	115	166	67	210	1,199
0134	Grapes	1,531	1,686	662	287	159	84	92	83	144	114	199	5,041
0135	Plantation fruit	351	487	391	256	162	99	98	94	39	26	24	2,027
0136	Orchard and other fruit	1,986	1,268	962	718	507	365	333	337	247	114	131	6,968
0143	Potatoes	196	244	226	239	156	131	159	146	146	46	56	1,745
0144	Vegetables (except potatoes)	1,389	1,231	688	452	319	231	243	250	226	114	184	5,327
0181	Cereal grains (incl. oilseeds n.e.c.)	1,723	1,786	1,930	1,999	1,937	1,671	2,112	2,395	2,421	981	1,145	20,100
0182	Sheep-cereal grains	784	1,865	2,670	2,812	2,570	2,184	2,442	2,718	2,380	961	793	22,179
0183	Meat cattle-cereal grains	919	929	709	602	481	312	359	374	347	138	132	5,302
0184	Sheep-meat cattle	2,329	2,449	1,986	1,449	1,014	776	778	780	681	222	271	12,735
0185	Sheep	4,411	3,598	2,796	1,987	1,410	996	1,028	1,012	754	270	235	18,497
0186	Meat cattle	17,143	6,536	2,734	1,473	828	582	569	526	459	163	429	31,442
0187	Milk cattle	2,350	5,860	6,334	3,457	1,656	852	672	390	173	42	37	21,823
0188	Pigs	889	622	390	262	238	140	132	173	135	42	73	3,096
0191	Sugar cane	89	220	482	975	988	775	870	804	622	203	317	6,345
0192	Peanuts	22	58	79	82	54	39	50	38	25	8	7	462
0193	Tobacco	33	13	88	188	184	140	132	91	53	11	32	965
0194	Cotton	1	1	-	4	1	5	10	19	22	30	82	175
0195	Nurseries	380	271	109	171	87	67	97	74	71	34	74	1,435
0196	Agriculture n.e.c.	2,402	513	185	110	61	47	29	27	25	14	88	3,501
Total (ASIC Code 01)		39,120	29,825	23,618	17,702	12,948	9,605	10,347	10,484	9,167	3,618	4,555	170,989

AGRICULTURAL ENTERPRISES, INDUSTRY, LEGAL STATUS AND ESTIMATED VALUE OF OPERATIONS: 1978-79

ASIC Code (1978 edition)	Industry of Enterprise	Legal status						Total enter- prises
		Sole operator	Family partner- ship	Other partner- ship	Private incor- porated company	Public incor- porated company	Other(a)	
0124	Poultry for meat	138	390	26	62	3	6	625
0125	Poultry for eggs	349	708	37	84	5	16	1,199
0134	Grapes	1,498	3,258	107	130	5	43	5,041
0135	Plantation fruit	732	1,205	49	26	2	13	2,027
0136	Orchard and other fruit	2,237	4,234	177	254	5	61	6,968
0143	Potatoes	537	1,099	36	59	1	13	1,745
0144	Vegetable (except potatoes)	1,729	3,292	120	149	3	34	5,327
0181	Cereal grains (incl. oilseeds n.e.c.)	4,902	13,400	503	838	19	438	20,100
0182	Sheep-cereal grains	4,545	15,647	577	921	7	482	22,179
0183	Meat cattle-cereal grains	1,559	3,165	165	299	6	108	5,302
0184	Sheep-meat cattle	4,069	6,968	512	804	22	360	12,735
0185	Sheep	6,338	10,082	637	860	25	555	18,497
0186	Meat cattle	13,244	14,678	1,010	1,647	55	808	31,442
0187	Milk cattle	6,643	13,894	418	470	18	380	21,823
0188	Pigs	1,010	1,884	74	95	2	31	3,096
0191	Sugar cane	1,399	4,573	121	135	2	115	6,345
0192	Peanuts	122	315	10	6	1	8	462
0193	Tobacco	234	663	32	13	2	21	965
0194	Cotton	32	95	14	28	-	6	175
0195	Nurseries	444	723	103	147	3	15	1,435
0196	Agriculture n.e.c.	1,646	1,524	133	160	3	35	3,501
Total (ASIC Code 01)		53,407	101,797	4,861	7,187	189	3,548	170,989
Estimated value of operations (\$'000)—								
2-9		5,606	4,169	356	391	5	308	10,835
10-19		3,717	3,411	243	337	2	261	7,971
20-29		2,396	3,248	168	262	2	174	6,250
30-39		1,555	2,901	171	256	1	161	5,045
40-49		1,012	2,402	128	252	6	117	3,917
50-59		636	1,947	130	196	-	81	2,990
60-74		560	2,104	149	270	5	83	3,171
75-99		453	2,103	187	340	3	86	3,172
100-149		317	1,840	154	385	2	73	2,771
150-199		102	736	73	165	-	18	1,094
200 and more		126	715	112	352	9	32	1,346
Total all size groups		16,480	25,576	1,871	3,206	33	1,394	48,562

(a) Includes co-operative societies trusts and estates.

**AGRICULTURAL ESTABLISHMENTS OPERATED BY AGRICULTURAL AND
NON-AGRICULTURAL ENTERPRISES BY INDUSTRY OF
ESTABLISHMENT: 1978-79**

<i>ASIC Code (1978 edition)</i>	<i>Industry of establishment</i>	<i>Operated by agricultural enterprises</i>	<i>Operated by non- agricultural enterprises</i>
0124	Poultry for meat	630	11
0125	Poultry for eggs	1,210	23
0134	Grapes	5,064	148
0135	Plantation fruit	2,036	21
0136	Orchard and other fruit	7,007	140
0143	Potatoes	1,763	23
0144	Vegetables (except potatoes)	5,344	66
0181	Cereal grains (incl. oilseeds n.e.c.)	20,467	245
0182	Sheep-cereal grains	22,498	142
0183	Meat cattle-cereal grains	5,379	109
0184	Sheep-meat cattle	12,882	251
0185	Sheep	18,887	268
0186	Meat cattle	32,590	1,243
0187	Milk cattle	22,029	165
0188	Pigs	3,142	85
0191	Sugar cane	6,457	42
0192	Peanuts	475	4
0193	Tobacco	967	3
0194	Cotton	177	1
0195	Nurseries	1,443	61
0196	Agriculture n.e.c.	3,583	137
Total (ASIC Code 01)		174,030	3,188

**AGRICULTURAL ESTABLISHMENTS OPERATED BY AGRICULTURAL ENTERPRISES BY INDUSTRY OF
ENTERPRISE AND INDUSTRY OF ESTABLISHMENT: 1978-79**

		<i>Industry of establishment</i>													
		<i>Cereal grains sheep cattle and pigs (ASIC Code 018)</i>													
<i>ASIC Code (1978 edition)</i>	<i>Industry of enterprise</i>	<i>Poultry (012)</i>	<i>Fruit (013)</i>	<i>Vege- tables (014)</i>	<i>Total (012)- (014)</i>	<i>Cereal grains (incl. oilseeds (0181)</i>	<i>Sheep cereal grains (0182)</i>	<i>Meat cattle- cereal grains (0183)</i>	<i>Sheep- meat cattle (0184)</i>	<i>Sheep (0185)</i>	<i>Meat cattle (0186)</i>	<i>Milk cattle (0187)</i>	<i>Pigs (0188)</i>	<i>Total (018)</i>	<i>Other agri- culture (019)</i>
	<i>Description</i>														
A	Agriculture, Forestry, Fishing and Hunting														
01	Agriculture														
012	Poultry	1,838	2	-	1,840	7	2	-	1	2	15	2	2	31	2
013	Fruit	-	14,063	-	14,063	4	3	-	2	6	26	5	-	46	2
014	Vegetables	-	5	7,096	7,101	5			2	2	26	5	2	42	4
	Total (ASIC Codes 012-014)	1,838	14,070	7,096	23,004	16	5	-	5	10	67	12	4	119	8
018	Cereal grains, sheep, cattle and pigs														
0181	Cereal grains (incl. oilseeds)		7	1	8	20,244	96	31	23	42	103	5	8	20,552	17
0182	Sheep-cereal grains		4		4	111	22,330	11	39	141	49	6	4	22,691	4
0183	Meat cattle-cereal grains		1		1	19	1	5,287	11	8	73	6	8	5,413	7
0184	Sheep-meat cattle	1	2		3	12	13	5	12,713	77	107	3	1	12,931	5
0185	Sheep		7	4	11	13	37	7	59	18,579	65	2	2	18,764	7
0186	Meat cattle	1	7	1	9	13	7	23	26	22	31,910	42	14	32,057	37
0187	Milk cattle		5	2	7	20	8	11	3	4	117	21,943	1	22,107	6
0188	Pigs		1	-	1	6	1	-	-	3	7	2	3,098	3,117	1
	Total (ASIC Code 018)	2	34	8	44	20,438	22,493	5,375	12,874	18,876	32,431	22,009	3,136	137,632	84
019	Other agriculture		3	3	6	13		4	3	1	92	8	2	123	13,010
	Total (ASIC Code 01)	1,840	14,107	7,107	23,054	20,467	22,498	5,379	12,882	18,887	32,590	22,029	3,142	137,874	13,102

Value of agricultural commodities produced and indexes of values at constant prices and average unit values

Definitions

Gross value of commodities produced is the value placed on recorded production at the wholesale prices realised in the principal market.

Marketing costs include freight, cost of containers, commission and other charges incurred in marketing.

Local value of commodities produced is the value placed on commodities at the place of production and is ascertained by deducting marketing costs from the gross value.

Average unit values are calculated by dividing the gross value of each commodity produced by the total production of each corresponding commodity.

Indexes of values at constant prices are the indexes of the gross value of commodities produced at constant prices, i.e. they are measures of change in value after the direct effects of price changes have been eliminated.

VALUES OF AGRICULTURAL COMMODITIES: 1978-79

	Gross value of agricultural commodities produced	Marketing costs	Local value of commodities produced	Indexes of agricultural commodities produced and output (Base year: 1974-75 = 1000)	
				Value at constant prices	Average unit gross value
	\$m	\$m	\$m		
Crops	4,931.2	735.1	4,196.1	1393	1107
Livestock slaughterings and other disposals	3,081.6	249.5	2,832.1	1238	2422
Livestock products	2,219.9	186.0	2,033.9	903	1501
Total agriculture	10,232.7	1,170.6	9,062.1	(a)1232	(a)1485

(a) Excludes seed, feed and fodder consumed or retained on farms.

Publications

Two preliminary estimates of value of commodities produced are published: *Gross Value of Agricultural Commodities Produced, First Estimates, Australia* (7501.0) and *Value of Agricultural Commodities Produced (Second Estimates) Australia* (7502.0). A final publication, *Value of Agricultural Commodities Produced, Australia* (7503.0), contains Indexes of Values at Constant Prices and Average Unit Values.

Indexes of Agricultural Commodities Produced

The indexes of values at constant prices of agricultural commodities produced and output are measures of change in value after the direct effects of price changes have been eliminated. The average unit value indexes measure changes in the average unit gross values of the included commodities. They are not price indexes in the generally accepted sense because they measure not only the effects of price changes but reflect also the effects of variations in the quality and composition of the commodities.

Both indexes, while consistent in scope with those of previous years, have been based on revised weights and a reference base of 1974-75 = 1000. The indexes of values at constant prices are weighted by the average unit values for the three years ended 1975-76 and the unit value indexes are weighted by the average of quantities produced during the three years ended 1975-76.

For further details on how these and earlier series were calculated see Year Book No. 61, pages 1063-65 and *Value of Agricultural Commodities Produced, Australia* (7503.0).

GROSS VALUE OF AGRICULTURAL COMMODITIES

(\$ million)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80 _p
Crops—						
Wheat for grain	1,256	1,249	1,051	934	2,296	2,179
Barley for grain	257	314	295	205	339	435
Sugar cane cut for crushing	491	436	472	421	396	549
Fruit and Nuts	267	269	290	334	401	431
Grapes	101	102	129	142	151	199
Vegetables	256	274	295	328	408	423
Pasture and grasses	150	129	147	118	161	936
Other crops	426	475	510	576	779	
<i>Total crops</i>	<i>3,204</i>	<i>3,247</i>	<i>3,189</i>	<i>3,058</i>	<i>4,931</i>	<i>5,152</i>
Livestock slaughterings and other disposals(a)—						
Cattle and calves	523	706	1,011	1,177	2,155	2,300
Sheep and lambs	178	204	299	357	429	614
Pigs	178	183	197	213	254	310
Poultry	140	153	178	220	244	299
<i>Total</i>	<i>1,019</i>	<i>1,246</i>	<i>1,686</i>	<i>1,967</i>	<i>3,082</i>	<i>3,523</i>
Livestock products—						
Wool	953	1,000	1,173	1,206	1,374	1,647
Whole milk	519	490	521	549	632	633
Eggs	170	175	179	196	199	211
Honey and beeswax	10	11	9	15	15	18
<i>Total</i>	<i>1,651</i>	<i>1,676</i>	<i>1,881</i>	<i>1,966</i>	<i>2,220</i>	<i>2,508</i>
Total agriculture	5,874	6,170	6,756	6,991	10,233	11,183

(a) Includes adjustment for net exports of live animals.

INDEXES OF VALUES AT CONSTANT PRICES OF AGRICULTURAL COMMODITIES PRODUCED AND OUTPUT

(Base year: 1974-75 = 1000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Crops—						
Barley for grain	953	1000	1264	1132	948	1606
Oats for grain	1267	1000	1305	1227	1133	2058
Wheat for grain	1078	1000	1081	1061	836	1636
Other grain cereals	1113	1000	1185	1183	988	1462
Sugar cane(a)	892	1000	1017	1165	1171	1013
Fruit and nuts	935	1000	885	867	815	971
Grapes	769	1000	986	1154	1013	1015
Vegetables	838	1000	944	1040	1086	1174
All other crops(b)	1082	1000	869	874	925	1264
<i>Total</i>	<i>1012</i>	<i>1000</i>	<i>1044</i>	<i>1046</i>	<i>934</i>	<i>1393</i>
Livestock slaughterings and other disposals—						
Cattle and calves(c)	854	1000	1192	1288	1415	1305
Sheep and lambs	871	1000	1083	1107	1116	1076
Pigs	1205	1000	993	1057	1137	1134
Poultry	1021	1000	1078	1151	1179	1281
<i>Total(d)</i>	<i>920</i>	<i>1000</i>	<i>1134</i>	<i>1211</i>	<i>1299</i>	<i>1238</i>
Livestock products—						
Wool	883	1000	951	886	851	887
Whole milk	1036	1000	971	928	862	931
Eggs	984	1000	989	898	949	922
<i>Total(e)</i>	<i>935</i>	<i>1000</i>	<i>960</i>	<i>897</i>	<i>863</i>	<i>903</i>
Agricultural output(f)	954	1000	1046	1049	1008	1232

(a) Cut for crushing and planting. (b) Includes pastures and grasses; excludes crops for green feed or silage. (c) Includes dairy cattle slaughtered. (d) Component series based on carcass weight. (e) Includes honey and beeswax. (f) Excludes seed, feed and fodder consumed or retained on farms.

**INDEXES OF AVERAGE UNIT VALUE OF AGRICULTURAL COMMODITIES
PRODUCED AND OUTPUT**

(Base year: 1974-75 = 1000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Crops—						
Barley for grain	778	1000	967	1014	842	822
Oats for grain	885	1000	999	1018	1023	819
Wheat for grain	968	1000	921	794	890	1122
Other grain cereals	1018	1000	1030	1081	1119	1165
Sugar cane(a)	504	1000	881	828	730	802
Fruit and nuts	865	1000	1138	1289	1564	1579
Grapes	1073	1000	1027	1098	1421	1508
Vegetables	1104	1000	1123	1083	1164	1332
All other crops(b)	922	1000	1076	1231	1374	1281
<i>Total</i>	<i>873</i>	<i>1000</i>	<i>963</i>	<i>944</i>	<i>1004</i>	<i>1107</i>
Livestock slaughtering and other disposals—						
Cattle and calves(c)	2393	1000	1136	1506	1595	3160
Sheep and lambs	2058	1000	1013	1462	1740	2320
Pigs	807	1000	1039	1051	1052	1259
Poultry	928	1000	1014	1108	1334	1363
<i>Total(d)</i>	<i>1845</i>	<i>1000</i>	<i>1081</i>	<i>1360</i>	<i>1485</i>	<i>2422</i>
Livestock products—						
Wool	1461	1000	1104	1390	1488	1626
Whole milk	872	1000	973	1098	1251	1346
Eggs	875	1000	1051	1182	1204	1287
<i>Total(e)</i>	<i>1208</i>	<i>1000</i>	<i>1056</i>	<i>1273</i>	<i>1383</i>	<i>1501</i>
Agricultural output(f)	1168	1000	1008	1114	1196	1485

(a) Sugar cane cut for crushing and planting. (b) Includes pastures and grasses; excludes crops for green feed or silage. (c) Includes dairy cattle slaughtered. (d) Component series based on value per unit of carcass weight. (e) Includes honey and beeswax. (f) Excludes seed, feed and fodder consumed or retained on farms.

Apparent consumption of foodstuffs and nutrients

Estimates of consumption in Australia are compiled by deducting net exports from the sum of production and imports and allowing for recorded movement in stocks of the respective commodities. The term 'consumption' is used in a specialised sense, since the quantities actually measured are broadly the quantities available for consumption at a particular level of distribution, ie ex-market, ex-store or ex-factory depending on the method of marketing and/or processing. Because consumption of foodstuffs is measured, in general, at 'producer' level no allowance is made for wastage before they are consumed. The effect of ignoring wastage is ultimately to overstate consumption but it is believed that more efficient distribution and storage methods in recent years have cut down wastage. Furthermore, it is likely that many of the foodstuffs are being supplemented by householders self-supplies over and above the broad estimate already made.

The estimates of consumption per capita have been derived by dividing the total apparent consumption of each commodity or commodity group in a given year by the mean population of Australia in the same period.

More detailed information on the consumption of foodstuffs is contained in the publications *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0) and *Apparent Consumption of Tea and Coffee, Australia* (4307.0). For some commodities, more timely information is contained in the publication *Apparent Consumption of Selected Foodstuffs, Australia (Preliminary)* (4315.0).

APPARENT PER CAPITA CONSUMPTION OF FOODSTUFFS

(Kg—unless otherwise indicated)

Commodity	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79p
Grain products—						
Flour (including flour for bread making)	76.8	74.2	73.9	72.8	67.6	70.2
Table rice	2.0	2.4	2.4	2.4	2.5	2.5
Breakfast foods	6.6	6.6	7.1	7.9	8.0	8.4
<i>Total grain products</i>	<i>85.7</i>	<i>83.2</i>	<i>83.6</i>	<i>83.1</i>	<i>78.1</i>	<i>81.1</i>
Fruit and fruit products—						
Citrus fruit (a)	31.3	36.7	39.6	32.8	35.8	35.9
Other fresh fruit	33.5	32.7	33.3	33.0	30.0	30.2
Jams, conserves, etc.	2.2	2.5	1.9	2.0	1.8	2.3
Dried fruits	2.4	1.8	2.2	2.0	2.0	1.0
Canned and bottled fruit	10.2	10.1	9.7	10.1	10.6	10.8
<i>Total (fresh fruit equivalent)</i>	<i>89.4</i>	<i>91.2</i>	<i>95.7</i>	<i>88.2</i>	<i>88.3</i>	<i>85.4</i>
Meat—						
Carcass meat (total)	71.9	96.2	95.8	92.3	90.1	77.8
Beef and veal	41.1	64.3	67.6	69.7	68.1	55.5
Mutton	8.6	9.0	7.0	4.7	3.7	4.6
Lamb	15.4	17.7	16.7	13.4	13.8	14.1
Pigmeat	6.7	5.1	4.4	4.4	4.6	3.7
Offal	4.4	5.2	5.9	6.2	6.5	5.6
Canned meat (canned weight)	2.4	2.3	1.7	1.7	1.7	1.4
Bacon and ham (cured carcass weight)	5.4	4.9	5.2	5.6	6.1	6.6
<i>Total (carcass equivalent weight)</i>	<i>86.7</i>	<i>111.1</i>	<i>110.8</i>	<i>108.1</i>	<i>107.0</i>	<i>94.2</i>
Poultry (dressed weight)	13.6	13.6	14.5	15.8	16.9	18.9
Vegetables—						
White potatoes	45.5	51.7	46.6	48.9	50.7	52.0
Other root and bulb vegetables	17.5	17.7	15.9	16.0	17.0	17.3
Tomatoes	14.9	10.1	14.3	14.6	13.2	13.8
Leafy and green vegetables	21.0	21.6	23.0	22.4	23.0	27.3
Other vegetables	18.7	19.2	18.2	19.7	21.7	23.3
<i>Total (fresh equivalent weight)</i>	<i>117.6</i>	<i>120.3</i>	<i>118.1</i>	<i>121.5</i>	<i>125.6</i>	<i>133.6</i>
Fish, fresh and frozen (edible weight)	3.8	2.9	3.1	3.0	3.3	3.1
Eggs and egg products	12.4	12.4	12.5	12.4	12.4	12.5
Equivalent number of eggs	219	219	220	219	219	221
Milk and milk products—						
Fluid whole milk (litres)	114.5	106.6	101.1	104.8	102.4	104.5
Condensed, concentrated and evaporated milk	4.0	4.2	4.8	5.0	4.9	4.8
Powdered milk	5.0	5.4	5.2	3.6	4.7	5.9
Infants' and invalids' food	1.5	2.1	1.4	1.1	1.2	1.1
Cheese (natural equivalent weight)	5.3	5.2	5.7	5.3	6.0	6.5
Oils and fats—						
Butter	7.7	7.2	6.8	5.8	5.0	4.2
Margarine—Table	1.7	2.2	3.1	4.7	5.7	5.9
Other	4.0	3.8	3.9	3.5	2.9	2.9
Sugar (b)	54.4	53.7	55.6	53.7	54.1	53.8
Nuts (in shell)—						
Peanuts	1.6	1.3	2.3	1.8	3.4	3.0
Tree nuts	3.0	3.2	3.3	3.2	3.1	2.6
Beverages—						
Tea	1.9	2.0	1.9	2.0	1.6	1.7
Coffee (c)	1.4	1.1	1.5	1.8	1.3	1.7
Aerated and carbonated waters (litres)	63.4	59.6	65.0	68.1	68.8	67.0
Beer (litres)	139.0	140.3	137.4	136.2	137.6	134.2
Wine (litres)	11.0	12.3	13.0	13.7	14.3	16.5
Spirits (litres alcohol)	1.2	1.2	1.1	1.3	1.3	1.1

(a) Includes fresh equivalent of manufactured goods. (b) In terms of refined sugar; includes the sugar content of syrups, honey, glucose and manufactured foods. (c) Coffee and coffee products in terms of roasted coffee.

Nutrients

The nutrients table has been compiled by the Nutrition Section and the Central Statistical Unit of the Commonwealth Department of Health and is based on the estimates of the quantity of foodstuffs available for per capita consumption.

For further information on the level of nutrient intake see the publication *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0).

ESTIMATED SUPPLY OF NUTRIENTS AVAILABLE FOR CONSUMPTION^(a) (Per capita per year)

Nutrient	Unit	1976-77	1977-78	1978-79p
Protein—				
Animal	g	69.2	70.1	67.1
Vegetable	g	31.5	30.1	31.3
Total	g	100.7	100.2	98.4
Fat (from all sources)	g	119.3	119.1	113.7
Carbohydrate	g	407.4	403.5	408.3
Calcium	mg	859.2	920.1	965.4
Iron	mg	15.7	15.7	15.1
Vitamin A activity	µg	1,580.6	1,616.2	1,568.0
Vitamin C (b)—				
Unadjusted	mg	92.5	95.5	103.4
Adjusted	mg	67.5	71.9	76.6
Thiamin (b)—				
Unadjusted	mg	1.6	1.5	1.5
Adjusted	mg	1.3	1.3	1.3
Riboflavin	mg	2.7	2.8	2.8
Niacin (b)—				
Unadjusted	mg	22.1	21.9	21.2
Adjusted	mg	38.2	38.0	37.0
Energy value	kJ	13,595	13,486	13,342

(a) Figures are based on conversion factors calculated from the revised and enlarged edition of S. Thomas and M. Corden *Metric Tables of Composition of Australian Food*, Canberra, 1977. (b) Data for vitamin C, Thiamin and Niacin show adjustments made for loss of nutrients in cooking and the extra niacin obtained from the metabolism of protein.

Land tenures

Descriptions of the land tenure systems of the States and the Territories, and conspectuses of land legislation in force were provided in Year Book No. 48 and previous issues (see also Year Book No. 50, page 85 and the List of Special Articles preceding the General Index in this Year Book).

Disposal of crown lands

For a description of the provisions that exist in all mainland States for the disposal of crown lands for public purposes, for unconditional purchase and occupation under lease or licence, see Year Book No. 61, page 742.

Closer settlement and war service settlement

Particulars of these are given in issues of the Year Book up to No. 22, and in Year Book Nos. 48, 55 and 61.

Alienation and occupation of crown lands

LAND TENURES,
(Thousand hectares)

State or Territory	Data: reference date	Private lands		Crown lands		Total area
		Alienated	In process of alienation	Leased or licensed	Other(a)	
New South Wales	30.6.79	27,319	1,471	42,676	8,677	80,143
Victoria	30.6.80	13,857	130	2,378	6,395	22,760
Queensland	31.12.79	12,929	19,584	129,334	10,853	172,700
South Australia	30.6.79	6,749	61	55,473	36,155	98,438
Western Australia	31.12.79	16,519	2,386	97,074	136,571	252,550
Tasmania	30.6.79	2,494	96	148	4,092	6,830
Northern Territory	27.9.80	10,296	232	77,104	46,988	134,620
Australian Capital Territory(b)	1.4.80	1	1	49	192	243
Australia . . . . .	..	90,164	23,961	404,236	249,923	768,284

(a) Occupied by Crown; reserved; unoccupied; unreserved. (b) Includes Jervis Bay.

Land utilisation in Australia

The table on land tenures in Australia above, shows the proportions of Australia and of the States and Territories which are held under freehold tenure ('alienated or in process of alienation') or leasehold tenure ('leased or licensed'). The total area under tenure differs from the total area of agricultural establishments (shown below) by amounts which represent unused land or land held for non-agricultural purposes. In general, land in the more fertile regions tends to be mostly freehold, while the less productive land is held under Crown lease or licence.

AREA OF ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY

(Million hectares)

At 31 March	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Aust. (incl. A.C.T.)
1975	68.9	15.5	154.2	63.8	115.6	2.5	79.3	499.9
1976	68.8	15.1	155.6	63.6	116.3	2.5	78.8	500.7
1977	66.0	14.5	155.0	63.1	115.2	2.3	75.4	491.5
1978	64.8	14.7	155.1	62.5	114.5	2.3	75.5	489.4
1979	65.1	14.4	156.3	62.7	116.2	2.2	76.2	493.2
1980p	65.5	14.8	159.5	62.0	115.1	2.2	77.1	496.3

LAND UTILISATION: AUSTRALIA

(Million hectares)

Year	Area used for crops(a)	Area under sown pastures and grasses	Balance (b)	Total	
				Area of establishments	Percentage of Australian land area (768,284,000 hectares)
1974-75	13.8	28.6	457.5	499.9	65.1
1975-76	14.5	27.7	458.5	500.7	65.2
1976-77	15.0	26.2	450.3	491.5	64.0
1977-78	16.8	25.9	446.7	489.4	63.7
1978-79	17.4	26.7	449.1	493.2	64.2
1979-80p	17.9	26.5	451.9	496.3	64.6

(a) Excludes duplication on account of area double cropped. (b) Used for grazing, lying idle, fallow, etc.

The total area of agricultural establishments in 1979–80 constituted 64.6 per cent of the Australian land area, the remainder being urban areas, State forests and mining leases, with an overwhelming proportion of unoccupied land (mainly desert). The balance data includes large areas of arid or rugged land held under grazing licences but not always used for grazing. Balance data also includes variable amounts of fallow land.

The crop area data represent up to 3.6 per cent of the area of agricultural establishments and emphasises the relative importance of the livestock industry in Australia—sheep in the warm, temperate, semi-arid lands and beef cattle in the tropics. The diminishing agricultural labour force (*see* page 338) is used on large areas of land with low carrying capacity.

Crops

For this section, statistics relating to crop areas and production have been obtained from the annual Agricultural Census. The census returns are collected in all States and the two Territories at 31 March each year and relate mainly to crops sown in the previous twelve months.

Where harvests are not completed by March (e.g. potatoes), provision is made in some States for a special collection after the harvest is completed. Additional statistics relating to value of agricultural commodities produced, manufactured production and overseas trade are also included. Agricultural Census data published in this section refer to the 'agricultural' year ended 31 March, while other data refer to the year ended 30 June; but for most purposes there will be little error involved in considering 'agricultural year' data as applying to the financial year.

The following table shows the area of crops in each of the States and Territories of Australia since 1860–61.

AREA OF CROPS(a): 1860–61 TO 1979–80

('000 hectares)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1860–61	100	157	2	145	10	62	—	—	475
1870–71	156	280	21	325	22	64	—	—	868
1880–81	245	627	46	846	26	57	—	—	1,846
1890–91	345	822	91	847	28	64	—	—	2,197
1900–01	990	1,260	185	959	81	91	—	—	3,567
1910–11	1,370	1,599	270	1,112	346	116	—	—	4,813
1920–21	1,807	1,817	316	1,308	730	120	—	1	6,099
1930–31	2,756	2,718	463	2,196	1,939	108	1	2	10,184
1940–41	2,580	1,808	702	1,722	1,630	103	—	2	8,546
1949–50	2,295	1,881	832	1,518	1,780	114	—	4	8,424
1954–55	2,183	1,904	1,049	1,711	2,069	122	—	2	9,040
1959–60	2,888	1,949	1,184	1,780	2,628	130	1	3	10,564
1964–65	4,182	2,621	1,605	2,414	3,037	163	2	4	14,028
1965–66	3,663	2,517	1,667	2,440	3,513	156	2	3	13,961
1966–67	5,027	2,738	1,863	2,626	3,568	180	2	4	16,007
1967–68	4,590	2,208	1,883	2,191	3,592	106	6	2	14,578
1968–69	5,509	2,529	2,071	2,596	3,839	110	6	3	16,665
1969–70	4,999	2,212	2,208	2,290	3,912	98	6	2	15,728
1970–71	3,967	1,732	1,791	1,998	3,826	80	2	1	13,397
1971–72	4,186	1,925	2,017	2,278	3,751	67	7	1	14,231
1972–73	4,329	1,943	1,963	2,122	3,814	80	12	1	14,265
1973–74	4,628	1,981	1,786	2,451	4,133	74	6	1	15,060
1974–75	4,089	1,772	1,898	2,257	3,754	67	7	1	13,845
1975–76	4,285	1,851	2,010	2,116	4,208	60	8	1	14,539
1976–77	4,520	1,943	2,026	2,036	4,417	65	2	1	15,010
1977–78	4,984	2,163	2,107	2,564	4,910	70	1	1	16,800
1978–79	5,020	2,209	2,307	2,827	4,993	80	2	1	17,438
1979–80p	5,232	2,302	2,313	2,759	5,254	65	2	1	17,928

(a) The classification of crops was revised in 1971–72 and adjustments made to statistics back to 1967–68. After 1966–67 lucerne for green feed, hay and seed, and pasture cut for hay are excluded.

NOTE: From 1970–71 data exclude duplication on account of area double cropped.

The wide range of climatic and soil conditions over the agricultural regions of Australia has resulted in a diversity of crops being grown throughout the country. Generally, cereal crops (excluding rice and sorghum) are grown in all States over wide areas, while other crops are confined to specific locations in a few States. However, scanty or erratic rainfall, limited potential for irrigation and unsuitable soils or topography have restricted intensive agriculture. Despite this, agricultural production has increased over time to meet increased demands both in Australia and overseas.

The following table provides an Australian summary of the area, production and gross value of the principal crops.

CROPS: AREA, PRODUCTION AND GROSS VALUE

Crop	Area ('000 hectares)			Production ('000 tonnes)			Gross value (\$m)		
	1977-78	1978-79	1979-80p	1977-78	1978-79	1979-80p	1977-78	1978-79	1979-80p
Cereals for grain—									
Barley	2,803	2,785	2,486	2,383	4,006	3,723	205	339	435
Grain sorghum	394	469	518	714	1,125	n.y.a.	59	97	100
Maize	45	50	56	130	169	n.y.a.	12	16	16
Oats	1,076	1,359	1,128	990	1,763	1,419	100	100	91
Rice	91	110	116	490	692	603	61	98	92
Wheat	9,955	10,249	11,159	9,370	18,090	15,968	934	2,296	2,179
Legumes for grain	186	168	217	100	203	n.y.a.	30	43	49
Crops for hay—									
Barley	17	16	11	30	39	27	—	1	—
Oats	221	220	198	604	749	640	27	32	n.a.
Wheat	68	50	52	146	149	139	7	6	—
Crops for green feed, silage—									
Barley	76	52	63	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Forage sorghum	68	73	55						
Oats	573	595	653						
Wheat	54	22	53						
Sugar cane cut for crushing	295	252	267	23,493	21,457	21,149	421	396	549
Tobacco	9	8	8	15	15	n.y.a.	54	55	56
Cotton	42	50	56	132	155	n.y.a.	61	76	100
Peanuts	30	37	32	39	62	n.y.a.	20	29	26
Muscardine	44	13	17	28	13	15	5	3	4
Rapeseed	19	22	41	16	23	39	3	5	10
Safflower	39	75	46	26	58	29	5	11	5
Sunflower	220	261	225	158	186	n.y.a.	37	46	40
Fruit (excl. grapes)	94	97	100	—	—	—	334	401	431
Orchard fruit	79	81	83	—	—	—	256	319	n.y.a.
Oranges				357	369	392	63	74	n.y.a.
Apples	n.a.	n.a.	n.a.	258	345	n.y.a.	83	100	110
Pears				108	128	n.y.a.	35	45	45
Peaches				62	65	69	17	21	24
Small and berry fruit	1	1	1	—	—	—	9	10	n.y.a.
Bananas	7	8	8	98	113	n.y.a.	50	51	51
Pineapples	6	6	7	99	105	n.y.a.	16	18	25
Grapes	71	71	70	694	716	n.y.a.	142	151	199
Vegetables	105	107	109	—	—	—	328	408	423
Potatoes	36	35	38	772	795	n.y.a.	94	123	124
Total, all crops (excluding pastures)	16,800	17,438	17,928	—	—	—	3,058	4,934	5,152

In the tables that follow, crop statistics are shown in these groupings: wheat, coarse grains, rice, oilseeds, sugar, vegetables, fruit, grapevines and other crops such as tobacco, mushrooms and fodder crops.

Cereal grains

In Australia, cereals are conveniently divided into autumn-winter-spring growing ('winter' cereals) and spring-summer-autumn growing ('summer' cereals). Winter cereals such as wheat, oats, barley and rye are usually grown in rotation with some form of pasture such as grass, subterranean clover, medics or lucerne. In recent years, alternative winter crops such as rapeseed, field peas and lupins have been introduced into cereal rotation in areas where they had not previously been grown. Rice, maize, sorghum and the millets are summer cereals and, except for rice, are also used for stock feed. In Northern Queensland and Western Australia there are two rice growing seasons—a dry season winter crop and a wet season summer crop.

Cereals for grain form a significant percentage of both the value of Australia's agricultural commodities and of the country's export earnings. The following table shows the significance of cereal grains in the last 6 years.

CEREAL GRAINS IN AUSTRALIA: A PERSPECTIVE

Year	Cereal grains(a)		Total agriculture gross value	Total Australian exports— all produce value f.o.b.	Gross value of cereal grains as a percentage of gross value of agriculture	Export value of cereal grains as a percentage of total Australian exports
	Gross value	Export value f.o.b.				
	\$m	\$m	\$m	\$m	per cent	per cent
1974-75	1,701.3	1,466.4	5,876	8,457	29.0	17.3
1975-76	1,798.2	1,376.4	6,173	9,340	29.1	14.7
1976-77	1,583.3	1,264.9	6,759	11,376	23.4	11.1
1977-78	1,353.8	1,261.9	6,995	11,922	19.4	10.6
1978-79	2,957.7	1,082.0	10,241	14,243	28.9	7.6
1979-80p	2,924.4	2,766.7	11,183	18,882	26.2	14.7

(a) Principally wheat, barley, oats, grain sorghum, rice and maize, with panicum/millet, canary seed and rye being minor cereals.

For more up-to-date and detailed information on cereals for grain see the following publications:

Agricultural Sector: Structure of Operating Units, Australia (7102.0), *Agricultural Land Use, Improvements and Labour, Australia* (7103.0), *Principal Agricultural Statistics: Australia (First Estimates)*, (7201.0), *Crops, Australia (Preliminary)* (7301.0), *Crops, Australia* (7302.0), *Cereal Grains: Estimates of Intended Sowings, Australia* (7304.0), *Cereal Grains: Estimates of Area Sown, Australia (Advance Release)* (7305.0), *Wheat, Australia* (7307.0), *Gross Value of Agricultural Commodities Produced: Australia, First Estimates* (7501.0), *Value of Agricultural Commodities Produced: Australia (Second Estimates)* (7502.0), *Value of Agricultural Commodities Produced, Australia* (7503.0).

Wheat

Wheat is grown extensively in all States except Tasmania, and is the most important crop in Australia in terms of area, production and value of exports. Factors which have contributed to the development of the industry are the organisation of overseas marketing and of research. As a large proportion of the wheat crop is exported, wheat marketing plays an important role. The Australian Wheat Board was constituted in September 1939, under *National Security (Wheat Acquisition) Regulations*, to purchase, sell or dispose of wheat or wheat products and to manage or control all matters connected with the handling, storage, protection, shipment, etc. of wheat acquired and such other matters as were necessary to give effect to the regulations. The major purpose in founding the Australian Wheat Board was the protection of wheat farmers by lowering financial risks on each crop. The strength of the Australian Wheat Board is derived from its ability to act as the single Australian agent for wheat sales abroad and to use that function as a basis for careful co-ordination of sales efforts and market development. The *Wheat Stabilization Act* 1948 reconstituted the Australian Wheat Board to administer the first stabilisation plan, the concept of which was to provide growers with a 'guaranteed price' for a specific quantity of exported wheat. Since then there have been six Five Year Stabilisation Plans.

Wheat marketing and pricing arrangements: 1979-80 to 1983-84

On 29 November 1979 the Wheat Marketing Act 1979 received Royal Assent and new wheat marketing and pricing arrangements became operative for the period 1 October 1979 to 30 September 1984. The basic elements of the new arrangements were negotiated between the Australian Wheatgrowers' Federation and Commonwealth and State Governments and necessitated the enactment of complementary Commonwealth and State legislation.

The new wheat marketing and pricing arrangements carry forward a number of features of the previous Stabilization Plan. In this respect the main features are: the Australian Wheat Board (AWB) is maintained as the sole statutory authority responsible for the marketing of wheat in Australia and of wheat and wheat products sold overseas; the constitution and general powers of the Wheat Board remain unchanged; the provisions for delivery quota arrangements remain, purely as a contingency measure; the legislation applies to a seven-year period except for the pricing provisions which run for five years.

The discounted payments scheme, which was introduced during the life of the last Stabilization Plan, has also been carried forward. The scheme enables the Board to offer to growers a payment, appropriately discounted, some months before a scheduled payment is due to be made. The operation of the scheme, in which growers may participate at their option, will not affect the rate at which the Board arranges for normal Pool payments to be made to those growers who do not use the discount facility.

The following are important new features:

Guaranteed Minimum Delivery Price

Shortly after delivery of wheat to the Australian Wheat Board or upon wheat coming under the Board's control, wheatgrowers receive a first payment known as the Guaranteed Minimum Delivery Price (GMDP). The GMDP is set at 95 per cent of the average of the pool return for the two previous seasons and an estimate of the pool return for the subject season, all converted to a net basis and is guaranteed by the Commonwealth Government with any deficiency between the net pool return and the GMDP being met by the Government. The GMDP will represent a substantial proportion of a grower's return from a pool, after deductions are made for the particular State's storage and handling charges, individual grower's rail freight and for contributions to research (Wheat Tax) and to the Wheat Finance Fund (Wheat Levy). Movements in the GMDP from one season to the next are subject to a limit of 15 per cent.

These arrangements provide the industry with support from the Government that is designed to help it overcome any short-run down-turn in producers' returns. At the same time the basis for determining the GMDP ensures that the support will be inevitably modified with longer run adjustments in market returns whether those adjustments be for a rising or a falling market. The GMDP for 1979-80 is \$114.71 per tonne for Australian Standard White (ASW) Wheat.

The Act also provides for an interim payment to be made to growers who deliver wheat to the Board prior to the determination of the GMDP for that season. It is the intention that the GMDP for each season be announced before 1 December each year when the bulk of the harvest commences to be delivered. The interim advance for the 1979-80 season was \$75 per tonne, less freight.

Financial Arrangements

Traditionally the AWB has borrowed from the Rural Credits Department (RCD) of the Reserve Bank of Australia to obtain funds to make first advances to growers and to meet pool marketing expenses. Under the Reserve Bank Act a statutory twelve months repayment period applies to RCD loans and the Commonwealth Government has customarily provided a guarantee of AWB repayment within the statutory period.

It has become necessary to develop new financing arrangements to enable the Board to borrow to meet the changed character of the first payment arrangements. Under the new arrangements more flexible borrowing rights and obligations have been granted to the Board. Arrangements embodied in the Act provide for the Board to borrow from the RCD, and, subject to the approval of the Minister for Primary Industry, from the commercial market and from the Wheat Finance Fund (see below).

Should the Government require the Board to borrow commercially within the statutory twelve months period for purposes for which RCD moneys would normally have been available, the Commonwealth will meet any borrowing costs that are additional to those that would have occurred had the borrowing been from the RCD. However, if the Board is unable to borrow from commercial sources for paying the GMDP or to meet marketing expenses within the statutory period, it is the Commonwealth Government's intention that the RCD should provide the necessary finance.

The Wheat Finance Fund established by the Wheat Marketing Act 1979 is a \$100 million revolving trust fund of growers' moneys. The \$80 million previously held in the former Wheat Prices Stabilization Fund was transferred into the Finance Fund and will be supplemented by the proceeds of levy each season (\$2.50 per tonne) on wheat marketed under the control of the Board. Any excess above \$100 million in the Fund will be returned to growers on a first-in-first-out basis. The Finance Fund provides a source of funds from which the Board will be able to borrow on a seasonal basis to clear any outstanding debt to the RCD on a season's pool at the end of the statutory twelve months period. Borrowings from the Fund will be made at a rate of interest determined by the Minister having regard to rates applying to Reserve Bank fixed deposits or Commonwealth securities.

Domestic Pricing

The arrangements for the pricing of wheat sold on the domestic market recognise the different components of the market, namely, the use of wheat for milling into flour for human consumption and the use of wheat for stockfeed and for industrial purposes.

The 1979-80 season price for Australian Standard White Wheat for human consumption sold domestically is \$130.78 per tonne; Australian Standard White Wheat f.o.r. ports basis. This amount

includes a \$3 per tonne component as the Tasmanian freight loading (see later). The price will be varied in subsequent years according to a formula which takes account of movements in export prices and an index of prices paid by farmers while providing, over time, a margin above export prices. Movements in the formula price from year to year will be subject to a limit of 20 per cent.

The formula used in fixing the price of wheat for human consumption may be found in the Attachment, as it is set out in the Schedule to the Wheat Marketing Act 1979.

A loading is included in the price of wheat for human consumption and is paid into the Tasmanian Freight Fund, which is used exclusively to cover the cost of shipping wheat from the mainland to Tasmania each season. This loading existed under previous plans but with the difference that the loading was placed on wheat sold domestically for all purposes. For 1979-80 the loading is \$3 per tonne.

The domestic consumption prices for industrial and stockfeed wheats will be set from time to time by the Board in the light of its commercial judgment and having regard to orderly marketing considerations. (At the beginning of the marketing year (1 December 1979) the Board set the price of industrial wheat at \$131.00 per tonne f.o.r. ports for the period through to 30 June 1980 and the price of stockfeed wheat at \$130.00 per tonne the latter being subject to fortnightly review). Under the provisions of the Wheat Marketing Act 1979 the Board has appointed an advisory panel representing grower and user interests to assess the accuracy, comprehensiveness and relevance of data that should be taken into account in determining prices for stockfeed wheat. That panel does not recommend price levels. A similar panel is to be appointed to advise the Board in relation to the pricing of wheat for industrial purposes. The information received by the Board, its assessment of this information and its subsequent pricing decisions are subject to review by the Australian Agricultural Council.

Domestic Marketing Arrangements

The Australian Wheat Board continues to exercise sole authority for the export marketing of wheat, flour and certain wheaten products and for the marketing of wheat domestically. However, the Board is now authorised to issue permits to enable wheatgrowers to deliver their wheat, subject to certain conditions, other than to an authorised receiver of the Board. It is permitted to issue permits to growers:

- (i) to deliver wheat from a property on which it is grown to another farm under the same or joint ownership for use on the latter; or
- (ii) to deliver wheat to a miller for gristing and return the produce of the gristing to the farm on which it was grown for use on that farm; or
- (iii) to sell wheat under new authorized grower-to-buyer transactions. Under these arrangements the Board is authorised to grant a permit for delivery by a grower direct to a buyer subject to conditions the Board determines as to price, freight allowance and any premiums or discounts in relation to the home consumption price of Australian Standard White Wheat. The proceeds of sale of the wheat involved are incorporated in the Board's pooling arrangements and the provisions for payments to growers apply as if the wheat had in fact been delivered to the Board's pool. However, provision is made for any quality differential agreed by the grower and buyer and for any cartage cost adjustment to be passed back to the buyer. Provision is also made for the Board to deduct from the payment to the grower a charge (covering capital, depreciation and costs of maintaining capital equipment) relating to costs associated with the bulk handling authority relevant to the particular grower. The specific charge is determined under State legislation.

The following wheat does not come under the control of the Wheat Board:

- (i) seed wheat;
- (ii) inferior quality wheat including screenings unacceptable for receipt by the Board; and
- (iii) wheat which is retained by a grower on a farm on which it is grown for use on that farm.

Wheat varieties and standards of wheat

The breeding of wheat suitable to local conditions has long been established in Australia. William Farrer (1845-1905) did invaluable work in pioneering this field and the results of his labour and the continued efforts of those who have followed him have proved of immense benefit to the industry. Their efforts have resulted in the development of disease-resistant varieties, better average yields, and a greater uniformity of sample, with which have accrued certain marketing advantages as well as an improvement in the quality of wheat grown. A detailed table of wheat varieties sown appears in *Wheat, Australia* (7307.0). The continuation of wheat breeding activities has led to expansions in the areas sown to wheat as well as in yields per hectare, but it is difficult to distinguish progress due to improved wheat varieties from that due to wider rotations, increased mechanisation and superphosphate-improved pastures.

The quality of wheat (its flour yielding capacity, protein content, hardness and physical dough properties) is governed by a combination of the wheat variety and the climatic and growing characteristics of its region of origin. Since 1954, Australian wheat has been marketed under distinct classifications. This practice of segregation has been widely employed to enhance the marketability of Australian wheat, and in recent years up to twenty-two separate grades have been made available for export. Within the Australian wheatbelt there exist wide ranges of soil fertility, rainfall, day length and ambient temperature, and, by developing varieties which complement the growing conditions, it has been possible to produce varieties with qualities suitable for virtually every commercial application. Particulars of Australian wheat standards may be found in *Wheat, Australia* (7307.0).

Central Grain Research Laboratory

In 1976, the Australian Wheat Board established this laboratory in Sydney as an addition to the facilities of the Bread Research Institute of Australia. The main functions of the laboratory are to test and report on the Australian crop, to analyse and compare competitor wheats from other countries and to develop research programs to aid the marketing of wheat.

WHEAT: AREA, PRODUCTION AND RECEIVALS

Season	Area		Production		Australian Wheat Board receipts(a)
	For grain	All purposes	Grain	Gross value	
	'000 ha	'000 ha	'000 tonnes	\$m	'000 tonnes
1974-75	8,308	8,406	11,357	1,256.4	10,705
1975-76	8,555	8,633	11,982	1,249.2	11,258
1976-77	8,956	9,053	11,800	1,050.8	10,932
1977-78	9,955	10,078	9,370	934.2	8,542
1978-79	10,249	10,321	18,090	2,295.8	17,456
1979-80p	11,159	11,264	15,968	2,178.7	(b) 15,300

(a) Australian Wheat Board receipts are for the season commencing 1 December; production data is for the year ending 31 March. (b) Receipts to 9 October 1980.

WHEAT FOR GRAIN: AREA AND PRODUCTION, BY STATE

Season	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Australia
AREA ('000 hectares)							
1974-75	2,646	1,141	489	1,220	2,810	2	8,308
1975-76	2,774	1,073	576	958	3,171	2	8,555
1976-77	3,116	1,103	582	839	3,314	2	8,956
1977-78	3,377	1,270	607	1,090	3,609	1	9,955
1978-79	3,162	1,337	747	1,295	3,706	1	10,249
1979-80p	3,415	1,493	732	1,418	4,099	2	11,159
PRODUCTION ('000 tonnes)							
1974-75	3,809	2,091	692	1,486	3,277	2	11,357
1975-76	4,310	1,579	830	1,139	4,122	2	11,982
1976-77	5,141	1,780	794	832	3,249	4	11,800
1977-78	3,846	1,497	569	511	2,945	2	9,370
1978-79	6,640	2,998	1,962	2,086	4,400	3	18,090
1979-80p	6,000	3,136	887	2,199	3,741	4	15,968

PRODUCTION AND DISPOSAL OF WHEAT FOR GRAIN

('000 tonnes)

Season	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Production	11,987	11,357	11,982	11,800	9,370	18,090
Less balance held on farms for—						
Seed usage	505	513	535	598	610	595
Feed and other uses	282	139	189	270	218	39
Gross receipts	11,200	10,705	11,258	10,932	8,542	17,456
Opening stocks(a)	478	1,882	1,658	2,665	2,137	816
Total availability for sale	11,678	12,587	12,916	13,597	10,679	18,272
Export shipments—						
Wheat	7,124	8,254	7,962	9,502	7,918	11,478
Flour and wheat products(a)	294	296	271	261	180	167
Domestic sales—						
Flour(a)	1,362	1,334	1,304	1,261	1,259	1,292
Stockfeed	911	1,006	620	380	438	619
Breakfast feeds etc. (a)	46	54	68	55	43	41
Total disposal	9,737	10,944	10,225	11,459	9,838	13,597
Availability (—) Disposals	1,941	1,643	2,691	2,138	841	4,675
Closing stocks(a)	1,882	1,658	2,665	2,137	816	4,629
Apparent wastage	59	-15	26	1	25	46

(a) Wheat and flour in terms of wheat.

NOTE: The Australian Wheat Board is the source of receipts, export shipments, domestic sales data, and opening and closing stocks; the ABS records other data.

Wheat pools

Details of wheat receipts by State of origin for the several Pools together with Pool payments and times of payment will be found in the latest issue of *Wheat, Australia* (7307.0).

Wheat exports

International Wheat Agreement. A number of Agreements have operated since 1949 to provide a valuable framework for continuing international consultations and co-operation on world wheat matters, including the regular monitoring of the world wheat situation. The 1971 International Wheat Agreement (first due to expire on 30 June 1974) has been extended by protocol to 30 June 1981. Negotiations towards a new Agreement were held in 1978 and January–February 1979 under the auspices of the U.N. Conference on Trade and Development (UNCTAD). No consensus was reached on an Agreement with economic provisions (unlike the current Agreement) designed to bring about a measure of price stability by the accumulation and release of internationally co-ordinated nationally-held reserve stocks. The January 1979 conference was adjourned indefinitely. Following the extension of the Agreement to June 1981, work has continued within the International Wheat Council towards formulating an agreement that will be acceptable to all parties.

Details of the earlier International Wheat Agreements are published in previous editions of the Year Book and in issues of *Wheat, Australia* (7307.0).

WHEAT EXPORTS: A COMPARISON WITH OTHER EXPORT COMMODITIES(a)

Year	Wheat for grain: Exports		Total Australian exports— all produce: Value f.o.b.	Export value of wheat for grain as a percentage of total Australian exports
	Quantity	Value f.o.b.		
	'000 tonnes	\$m	\$m	per cent
1974-75	7,860	1,034.4	8,457	12.2
1975-76	7,567	922.5	9,340	9.9
1976-77	7,945	863.5	11,376	7.6
1977-78	10,949	1,011.1	11,922	8.5
1978-79	6,824	794.2	14,243	5.6
1979-80p	14,840	2,178.1	18,882	11.5

(a) These statistics exclude re-exports.

EXPORTS OF WHEAT AND FLOUR

Country of consignment	Quantity ('000 tonnes)			Value f.o.b. (\$m)		
	1977-78	1978-79	1979-80p	1977-78	1978-79	1979-80p
WHEAT						
Bangladesh	146.5	52.2	449.8	14.3	6.3	67.9
China—excl. Taiwan Province	4,603.1	1,437.7	3,572.0	376.4	139.6	452.9
Egypt, Arab Republic of	1,246.5	1,212.9	1,683.3	115.7	144.3	251.1
Indonesia	559.2	563.0	659.6	57.0	70.5	98.2
Iran	—	12.5	753.4	—	1.6	120.0
Iraq	520.0	431.5	1,200.8	54.7	57.5	179.3
Japan	1,158.0	968.8	984.8	116.0	117.6	147.0
Korea, Dem. Peoples Rep.	76.4	90.9	182.3	8.0	10.6	29.5
Kuwait	178.8	193.5	147.1	18.1	23.8	21.8
Malaysia	376.9	378.8	365.8	37.8	46.2	53.6
Pakistan	229.9	239.9	288.1	21.4	30.2	37.9
Saudi Arabia	125.8	105.4	168.1	15.4	14.4	32.3
Singapore	229.1	186.7	350.7	22.4	20.7	45.4
U.S.S.R.	255.1	157.3	2,617.1	27.2	15.3	432.0
Viet Nam, Socialist Rep.	61.7	143.2	154.9	5.5	15.8	23.1
Other countries	1,182.0	649.4	1,262.5	121.3	79.8	186.1
Total	10,948.9	6,823.7	14,840.3	1,011.2	794.2	2,178.1
FLOUR(a)						
Mauritius	18.3	16.7	12.7	3.1	3.4	2.9
New Caledonia	2.7	4.2	4.4	0.5	0.7	1.0
Papua New Guinea	16.7	16.8	17.3	3.1	3.4	4.3
Polynesia (FR)	0.3	0.4	2.0	0.1	0.2	0.5
Samoa (Western)	3.9	4.5	3.6	0.6	0.7	0.8
Saudi Arabia	2.8	1.9	1.4	0.4	0.4	0.3
Solomon Islands	1.9	2.5	3.1	0.3	0.5	0.7
Sri Lanka	9.5	10.4	—	1.7	2.1	—
Tonga	5.1	3.7	3.5	0.8	0.7	0.8
Other countries	71.2	16.7	8.8	11.8	3.6	2.0
Total	132.4	77.8	56.8	22.4	15.7	13.3

(a) Plain, white and self-raising flour, sharps and wheatmeal for baking.

WORLD WHEAT: AREA AND PRODUCTION

Source: International Wheat Council, *World Wheat Statistics* (various issues)

Unit: Area in million hectares; production in million tonnes

	1974-75		1975-76		1976-77		1977-78		1978-79 ^p	
	Area	Prod.	Area	Prod.	Area	Prod.	Area	Prod.	Area	Prod.
Europe	27.3	90.7	25.4	77.2	26.8	85.4	24.8	81.9	26.1	94.3
EEC (9)	11.2	45.3	10.5	38.0	11.2	39.1	10.1	38.4	11.0	47.6
U.S.S.R.	59.7	83.9	62.0	66.2	59.5	96.9	62.0	92.2	62.9	120.8
North & Central America	36.2	64.6	38.4	77.7	40.8	85.3	37.8	77.8	34.4	72.8
Canada	8.9	13.3	9.5	17.1	11.3	23.6	10.1	19.9	10.6	21.1
U.S.A.	26.5	48.5	28.1	57.8	28.6	58.3	26.9	55.4	23.0	48.9
South America	8.2	10.7	9.6	12.0	11.4	16.3	8.0	8.7	8.5	12.2
Asia	78.8	93.6	79.3	105.5	83.3	118.0	84.0	111.9	85.8	122.2
China (a)	32.0	41.0	32.8	46.0	34.3	50.0	35.0	45.0	36.0	52.0
India	18.6	21.8	18.0	24.2	20.5	28.8	20.9	29.0	21.5	31.8
Iran	5.9	4.7	6.0	5.5	5.6	6.0	5.5	5.5	5.4	5.7
Pakistan	6.1	7.6	5.8	7.7	6.1	8.7	6.4	9.1	6.4	8.4
Turkey	8.8	11.0	9.3	14.8	9.3	16.5	9.3	16.7	9.3	16.7
Africa	8.8	8.4	8.2	9.5	9.0	10.6	8.6	8.0	8.6	9.1
Oceania	8.4	11.5	8.7	12.3	9.1	12.2	10.1	9.7	10.3	18.4
Australia	8.3	11.4	8.6	12.0	9.0	11.8	10.0	9.4	10.2	18.1
Total world	227.3	363.4	231.5	360.4	239.9	424.6	235.3	390.2	236.6	449.9

(a) Excludes Taiwan Province; FAO estimates.

NOTE 1. Crop years shown cover northern hemisphere harvests combined with those of the southern hemisphere which immediately follow.

2. The 9 members of the EEC are: Belgium, Denmark, France, Federal Republic of Germany, Ireland, Italy, Luxembourg, Netherlands and the United Kingdom.

Coarse grains

In the late sixties and early seventies, restrictions on wheat deliveries and low returns in the sheep industry caused a resurgence of interest in coarse grain crops and the newer oilseed crops. The resultant higher level of plantings and production has been maintained, despite the lifting of wheat delivery quotas and a general improvement in market prospects for wheat, wool and meat.

Barley

This cereal contains two main groups of varieties, 2-row and 6-row. The former is generally, but not exclusively, preferred for malting purposes. Barley is grown principally as a grain crop although in some areas it is used as a fodder crop for grazing with grain being subsequently harvested if conditions are suitable. It is often grown as a rotation crop with wheat; oats and pasture. When sown for fodder, sowing may take place either early or late in the season, as it has a short growing period. It may thus provide grazing or fodder supplies when other sources are not available. Barley grain may be crushed to meal for stock or sold for malting.

Crops sown for malting purposes require a combination of light textured soil of moderate fertility, reliable rainfall, and mild weather during ripening. The main barley-growing areas in Australia are situated in South Australia, but considerable quantities are grown also in New South Wales, Western Australia, Victoria and Queensland.

Barley Boards

Barley is marketed in New South Wales and Queensland by statutory boards in both States, while the Australian Barley Board controls marketing in both Victoria and South Australia. Marketing of barley in Western Australia is the responsibility of the Grain Pool of Western Australia.

BARLEY FOR GRAIN: AREA, PRODUCTION AND EXPORTS

Year	Area	Production		Total		Exports	
		2-row	6-row	Quantity	Gross value	Quantity	Value f.o.b.
	'000 ha	—'000 tonnes—			\$m	'000 tonnes	\$m
1974-75	1,826	2,272	243	2,515	256.9	1,760	186.7
1975-76	2,329	2,872	307	3,179	313.9	1,954	199.8
1976-77	2,321	2,627	220	2,847	294.8	2,100	222.5
1977-78	2,803	2,261	123	2,383	205.0	1,325	121.8
1978-79	2,785	3,787	220	4,006	339.1	1,744	149.5
1979-80p	2,486	3,555	168	3,723	435.0	2,962	354.3

Oats

Oats is traditionally a cereal of moist temperate regions. However, improved varieties and management practices have enabled oats to be grown over a wide range of soil and climatic conditions. It has a high feed value and produces a greater bulk of growth than other winter cereals; it needs less cultivation and responds well to superphosphate and nitrogen. Oats has two main uses—as a fodder crop, following sowing or fallow or rough sowing into stubble or clover pastures or as a main crop. Fodder crops can either be grazed and then harvested for grain after removal of live stock or else mown and baled or cut for chaff. Oats produced in New South Wales are marketed through a statutory board while the Victorian Oatgrowers' Pool and Marketing Company Ltd markets the bulk of oats produced in Victoria and acts as a marketing and handling agent for the N.S.W. Board. In South Australia the Barley Marketing Act was amended in 1977 to give the Australian Barley Board powers over oat marketing in that State. Under the legislation amendments the Board controls export sales and grain resold on the local market; however, direct sales between producers and consumers are outside the Board's supervision. The Grain Pool of Western Australia conducts a voluntary pool for oats.

Oats is usually next in importance to wheat and barley among the grain crops. About three-quarters of the crop is used domestically as stockfeed or for human consumption.

OATS FOR GRAIN: AREA, PRODUCTION AND EXPORTS

Year	Area	Production		Exports	
		Quantity	Gross value	Quantity	Value f.o.b.
	'000 ha	'000 tonnes	\$m	'000 tonnes	\$m
1974-75	897	874	59.6	236	19.8
1975-76	988	1,141	77.8	359	32.9
1976-77	995	1,072	74.4	364	33.4
1977-78	1,076	990	69.1	218	19.6
1978-79	1,359	1,763	100.5	290	24.9
1979-80p	1,128	1,419	91.3	472	43.8

Grain sorghum

The sorghums are summer growing crops which are used in three ways: grain sorghum for grain; sweet or fodder sorghum, sudan grass and, more recently, columbus grass for silage, green feed and grazing; and broom millet for brooms and brushware.

Grain sorghum has been grown extensively only in the last two decades. Rapid increases in production have resulted in a substantial increase in exports over this period. The grain is used primarily as stockfeed and is an important source for supplementing other coarse grains for this purpose.

The climatic conditions of Queensland and northern New South Wales are particularly suited to the growing of sorghum. In Queensland, grain sorghum production is concentrated in the Darling Downs, Fitzroy and Wide Bay-Burnett Divisions. In New South Wales, the north-western slopes and plains are the main areas.

In Queensland, a degree of orderly marketing is ensured by the operation of the Northern and Central Queensland Grain Sorghum Marketing Board (a statutory authority in a defined area in central Queensland) and the Queensland Graingrowers' Association, which receives sorghum mainly from southern Queensland. A state statutory marketing board handles sorghum grown in New South Wales.

GRAIN SORGHUM: AREA, PRODUCTION AND EXPORTS

Year	Area	Production		Exports	
		Quantity	Gross value	Quantity	Value f.o.b.
	'000 ha	'000 tonnes	\$m	'000 tonnes	\$m
1974-75	511.1	900.8	76.2	855.8	73.3
1975-76	504.0	1,123.7	96.1	815.0	71.8
1976-77	532.1	956.0	80.3	829.2	76.3
1977-78	394.1	714.4	59.5	384.5	35.4
1978-79	468.7	1,125.2	97.4	516.3	45.5
1979-80p	518.3	n.y.a.	99.9	580.4	59.8

Maize

Like sorghum, maize is a summer cereal demanding specific soil and climatic conditions. Maize for grain is almost entirely confined to the south-east regions and Atherton Tablelands of Queensland and the north coast and northern slopes and tablelands and the Murrumbidgee Irrigation Area in New South Wales. Small amounts are grown in all States, except South Australia, for green feed and silage, particularly in association with the dairy industry.

A statutory board controls the marketing of maize in the Atherton Tablelands area of Queensland while the Queensland Graingrowers Association markets maize grown in the south-east. In New South Wales, the Yellow Maize Marketing Board for the State of New South Wales (established in 1976) handles the marketing of maize.

MAIZE: AREA, PRODUCTION AND EXPORTS

Year	Area	Production		Exports	
		Quantity	Gross value	Quantity	Value f.o.b.
	'000 ha	'000 tonnes	\$m	'000 tonnes	\$m
1974-75	51.4	133.3	11.7	1.2	0.2
1975-76	46.8	131.5	12.2	10.8	1.0
1976-77	53.0	144.2	13.1	33.0	2.8
1977-78	45.4	130.1	12.2	11.1	1.6
1978-79	50.0	168.8	15.6	16.9	1.3
1979-80p	55.9	n.y.a.	16.4	7.7	0.9

Rice

In Australia, rice was first grown commercially in 1924-25 in the Murrumbidgee Irrigation Area, one of three irrigation areas in southern New South Wales where rice is now produced. Today, about 96 per cent of Australia's rice is grown in New South Wales. The remainder is grown in the Burdekin River basin and at Mareeba in Northern Queensland with small quantities grown in the Ord River region of Western Australia.

Rice is a summer growing crop in N.S.W. The combination of irrigation water and the relatively cloudless days characteristic of summers in temperate regions of the world is the main contributing factor to the extreme high yields per hectare often achieved by N.S.W. growers. In Western Australia and Queensland, a winter and summer crop is grown.

State statutory marketing boards are responsible for the marketing of the N.S.W. and Queensland crops.

RICE: AREA, PRODUCTION AND EXPORTS

Year	Area	Production		Exports	
		Quantity(a)	Gross value	Quantity	Value f.o.b.
	'000 ha	'000 tonnes	\$m	'000 tonnes	\$m
1974-75	75.6	388.3	35.9	164.3	43.0
1975-76	74.8	417.0	41.2	218.0	51.4
1976-77	92.0	529.8	59.4	256.5	57.1
1977-78	91.4	489.7	61.1	277.5	66.6
1978-79	110.2	692.2	97.8	241.2	66.2
1979-80p	116.1	602.9	92.3	457.3	129.9

(a) In terms of paddy (or rough) rice.

Oilseeds

The restrictions on wheat deliveries and low wool and meat prices in the late 1960s and early 1970s increased interest in the newer oilseed crops such as rapeseed. This was aided by a buoyant world market for oilseeds.

Specialised Oilseeds

In Australia, linseed, rapeseed, safflower, sunflower and soybean are grown specifically for crushing. These crops are located in the grain areas of several States and have shown spectacular increases in recent years.

Linseed. Linseed is a temperate winter growing annual, the seeds of which, when crushed, yield an industrial oil used in the manufacture of paint and linoleum. The introduction of synthetics into these fields has reduced the demand for linseed oils. The main producing areas are the wheat belt of New South Wales, western and north-eastern districts of Victoria, the Esperance district of Western Australia, the Darling Downs in Queensland and the south-eastern district of South Australia.

Rapeseed. This is obtained from several varieties of brassica which are cultivated in temperate and warm temperate zones for their oil-producing seed. Rapeseed oil is used mainly as a salad and cooking oil with some amounts being utilised for industrial purposes. A protein meal is derived as a by-product in the crushing process. Rapeseed is winter growing and is produced mainly in the higher rainfall areas of southern New South Wales, Victoria, South Australia and Western Australia. From virtually nil production in 1967-68 it rose to a peak of 55,000 tonnes in 1971-72 but declined rapidly due partly to blackleg disease in Western Australian crops. In more recent years, blackleg resistant varieties of low erucic acid content have been released and production is expected to increase.

Safflower. Safflower is best cultivated either in the warm temperate zones or as a winter crop in the tropical or sub-tropical regions, on moderately fertile, weed-free, clay or sandy loams. Adequate moisture is required up to the flowering stage, after which it is relatively drought resistant. The soil preparation and sowing techniques are similar to those employed for small grains; it is usually harvested by headers when the seed is hard and dry. The oil, produced by crushing, is used in the manufacture of margarine, soaps, paints, varnishes, enamels, and textiles.

Sunflower. Sunflowers are summer growing annuals produced under raingrown and irrigated conditions mainly in the three eastern mainland States of Australia. The cultivation of sunflowers has developed rapidly in recent years with improved varieties of open-pollinated and hybrid seeds and improved crop husbandry to make it the major oilseed crop.

The seed for which the plant is cultivated yields a high quality dual purpose oil which sells at a premium price compared with other oilseeds and a by-product protein meal used for stockfeed. Main uses for the oil are in the manufacture of margarine, as a salad and cooking oil, and for industrial purposes.

Soybeans. The soybean is cultivated widely throughout the world in temperate zones where hot damp summers provide adequate growing conditions. Although large quantities of beans are directly consumed in countries such as Japan, China and Indonesia, the greater part of world output is crushed for oil and meal. The oil is used for salad oils, cooking oils and margarine as well as in a wide range of industrial processes such as paint, detergent and plastic manufacture. The meal is a high protein feed for livestock but it is also used for the manufacture of synthetic fibres, adhesives and synthetic meats.

Soybeans are a summer growing crop and are largely grown under irrigation in Australia. The greater part of Australian production takes place in the Darling Downs, Burnett and Lockyer districts of Queensland and in the Moree and Gunnedah districts of New South Wales.

Trends in the production of these specialised oilseed crops are closely tied to development in markets and prices not only for oilseeds but also for wheat, coarse grains and meat. In 1975-76, due to lower world and domestic market prices and an increase in oil imports, the industry requested greater import protection. The Industries Assistance Commission reviewed the assistance requirements of the fats and oil production sector as well as the seed producing industry and recommended changes to the structure of assistance. The recommendations, adopted by the Government resulted in some reduction in the overall level of assistance accorded the oilseeds crushing industry.

Constant attention is being paid to alternative marketing arrangements and to research to improve technical and economic efficiency. Legislation providing for the establishment of a joint Government-industry research scheme for the Australian oilseeds industry commenced operation in November 1977. Research undertaken by the scheme is aimed at the encouragement and improvement of the industry. The scheme is financed by way of a levy on the production of sunflowerseed, safflowerseed, linseed, rapeseed and soybean and a matching Commonwealth Government contribution.

Other Oilseeds

Peanuts and cottonseed are grown for other purposes, but oil is a by-product.

Peanuts. Peanuts, or groundnuts, are a sub-tropical legume (and hence summer growers), the pods of which mature beneath the surface of the soil. They thus require well drained, light textured soils. At harvest the plant is pulled, wind-rowed, field-cured for two to four weeks, and then threshed to recover the pods. The main products of the industry are nuts, peanut oil and oil cake.

In Australia, peanuts for crushing for oil arise as a by-product in the production of nuts for edible purposes. The oil is used extensively as a cooking and salad oil and in the manufacture of margarine.

The production of peanuts in Australia is confined mainly to Queensland, although small quantities are grown in New South Wales, the Northern Territory and, in some years, Western Australia.

SELECTED OILSEED CROPS: AREA, PRODUCTION AND GROSS VALUE

Year	Specialised				Other		
	Linseed	Rapeseed	Safflower	Sunflower	Soybeans	Peanuts	Cotton(a)
AREA ('000 hectares)							
1974-75	35.6	11.8	36.2	209.5	45.9	24.1	38.5
1975-76	15.7	15.9	39.8	136.9	26.3	27.3	29.8
1976-77	15.3	7.7	12.9	134.6	34.6	31.0	35.3
1977-78	43.8	19.1	39.0	220.4	49.9	30.3	41.6
1978-79	13.1	22.3	74.7	260.7	53.7	36.9	49.8
1979-80p	17.4	40.7	46.4	225.4	56.3	31.6	56.4
PRODUCTION ('000 tonnes)							
1974-75	33.0	8.5	30.5	113.4	73.7	32.0	106.6
1975-76	12.2	11.9	18.2	80.4	44.6	35.5	80.1
1976-77	16.4	8.5	6.3	74.9	55.2	31.9	82.8
1977-78	27.9	15.7	26.3	158.3	76.5	39.0	131.5
1978-79	12.9	23.4	57.7	186.2	98.7	62.3	155.2
1979-80p	14.6	39.5	29.0	n.y.a.	n.y.a.	n.y.a.	n.y.a.
GROSS VALUE (\$ million)							
1974-75	7.5	1.9	7.5	24.0	13.2	12.0	29.3
1975-76	2.1	1.9	2.7	15.7	7.2	15.8	37.5
1976-77	3.4	1.5	1.4	21.5	14.7	14.4	39.8
1977-78	5.0	3.0	5.4	36.6	17.6	20.2	61.2
1978-79	2.6	4.8	11.0	45.8	24.6	28.7	76.0
1979-80p	3.6	10.0	5.4	39.5	n.y.a.	26.5	99.7

(a) Additional data are shown below.

Cotton. This annual shrub requires a hot climate and inter-row weed control. Lint (long fibres) is extracted from the seed cotton in the ginneries and is used for yarn. The residue, consisting of linters (short fibres), kernels and hulls (outer seed coat), is treated in oil mills. Linters are used in the manufacture of felts and other materials where fibre length is of little importance. The kernels, when crushed, produce an oil which is used for food and for industrial purposes. The residual meal is a useful high protein stockfeed; the hulls may be used as fuel.

About three-quarters of the country's cotton is grown in New South Wales, principally in the Namoi, Macquarie and Gwydir Valleys with water provided from the Keepit, Burrendong and Cope-ton dams. The rest is grown in Queensland, also under irrigation except for a small and fluctuating dryland area, in the Emerald, St. George and Biloela areas. Australian production has for some time satisfied most of the requirements of local mills for short and medium staple cotton. The recent surge in plantings has resulted in large amounts of cotton becoming available for export. Exports from the 1979-80 crop are expected to amount to about 60,000 tonnes of raw cotton. A further expansion in Australian cotton plantings is expected in 1980-81 although low levels of water held in some dams may restrict the number of irrigations possible during the growing season. In view of the reduced levels of production by local yarn spinners overall developments in recent years should ensure a continued significant export orientation by the domestic cotton growing industry.

COTTON: AREA, PRODUCTION AND EXPORTS

Year	Area	Seed cotton (a)			Raw cotton export		
		Quantity	Gross value	Cottonseed(b)	Lint(c)	Quantity	Value f.o.b.
	'000 ha	'000 tonnes	\$m	'000 tonnes	'000 tonnes	'000 tonnes	\$m
1974-75	38.5	106.6	29.3	53.8	33.0	7.7	5.4
1975-76	29.8	80.1	37.5	40.7	24.9	16.0	11.5
1976-77	35.3	82.8	39.8	45.6	28.0	5.5	7.2
1977-78	41.6	131.5	61.2	72.1	44.2	9.8	10.9
1978-79	49.8	155.2	76.0	87.0	53.0	23.6	28.9
1979-80p	56.4	n.y.a.	99.7	137.4	83.9	48.6	67.3

(a) Before ginning.
Committee.

(b) Estimated by the Bureau of Agricultural Economics.

(c) Provided by the Raw Cotton Marketing Advisory

Sugar

Sugar cane is grown commercially along the east coast (from Mossman in northern Queensland south to the Clarence River in northern New South Wales) which has suitable soil and where the average rainfall is over 1,000 mm per year, or where irrigation water is available. Queensland accounts for 95 per cent of Australia's cane crop, most of which grows in the tropical zone where sugar is a major industry and source of employment. Cane farms average about 50 hectares.

Australia is the world's second largest exporter of raw sugar. It has a reputation as a reliable supplier and has always fulfilled its obligations and commitments under the various international marketing arrangements to which Australia has been a party. Each of the thirty-three mills is assigned a quota of sugar which is translated into cane quotas for growers.

The organisation of the industry is complex: the industry is subject to a significant degree of supervision by the Commonwealth and Queensland governments. The price of refined sugar for sale is fixed by agreements between the two regulating governments, with the Queensland government controlling raw sugar production and contracts for refining of home consumption needs, and arranging for export marketing of raw sugar.

The Australian sugar industry was the first in the world to introduce mechanical cultivation and harvesting techniques. By 1964 the entire industry was converted to bulk handling. Continuing improvements in bulk handling equipment have substantially increased the efficiency in bulk handling installations. The total storage capacity of the six Australian bulk sugar terminals is 1.95 million tonnes. Further storages are planned to give a total capacity of 2.14 million tonnes.

Production. Climatic conditions in some areas in New South Wales are such that the crop matures in 20-24 months, whereas in Queensland a period from 12-16 months is sufficient. Allowance should be made in interpreting the figures below for the disparity in the maturing periods in the respective States.

SUGAR CANE: AREA, PRODUCTION AND YIELD

Year	New South Wales					Queensland				
	Sugar cane cut for crushing			Raw sugar(a)		Sugar cane cut for crushing			Raw sugar(a)	
	Area	Production	Yield	Quantity	Yield	Area	Production	Yield	Quantity	Yield
	harvested					harvested				
	'000 ha	'000 tonnes	t/ha	'000 tonnes	t/ha	'000 ha	'000 tonnes	t/ha	'000 tonnes	t/ha
1974-75	9.9	996.7	100.6	121.0	12.2	243.2	19,421.1	79.9	2,727.5	11.2
1975-76	11.0	889.7	80.8	104.1	9.5	245.8	21,068.9	85.7	2,751.4	11.2
1976-77	11.6	1,074.2	92.4	132.3	11.4	276.6	22,269.4	80.5	3,163.2	11.4
1977-78	14.7	1,162.4	79.0	134.4	9.1	280.4	22,330.8	79.6	3,209.3	11.4
1978-79	14.1	1,321.5	94.1	152.7	10.9	237.7	20,135.5	84.7	2,748.9	11.6
1979-80p	11.8	1,291.5	109.4	155.8	13.2	255.3	19,857.6	77.8	2,807.2	11.0

(a) In terms of 94 net titre.

The average yields of cane per hectare has increased to 11 tonnes raw sugar equivalent owing to the development of new varieties and improved practices.

For many years Australia sold its sugar in each of three distinct market categories—the domestic market, sales under formal agreement (Commonwealth Sugar Agreement and the U.S. Sugar Act), and the residual world free market. Following international failure to regulate and stabilise world sugar market prices, the loss of the United Kingdom to the EEC and the expiry of the U.S. Sugar Act, the industry developed long-term export contracts with Asian and Pacific countries. Australia now exports over 1.2 million tonnes annually to Japan, Korea, Malaysia, Singapore, New Zealand and China under long-term contracts, the balance of sugar exports being disposed of on the free market. About 760,000 tonnes of raw sugar are processed for home consumption each year.

SUGAR: AREA, PRODUCTION, EXPORTS AND CONSUMPTION

Year	Area harvested	Production		Exports		Apparent consumption in Australia(a)		
		Quantity	Gross value	Raw sugar	Raw and refined sugar			
						Quantity	Value f.o.b.	Total	Per head
		mil. tonnes	\$m	mil. tonnes	mil. tonnes	\$m	'000 tonnes	kg
1974-75	253.1	20.4	490.7	2.8	2.0	644.5	672.5	49.1
1975-76	256.8	22.0	435.6	2.9	2.0	569.7	708.2	51.1
1976-77	288.2	23.3	472.2	3.3	2.6	637.5	694.0	49.6
1977-78	295.2	23.5	420.5	3.3	2.5	536.6	704.0	49.7
1978-79	251.7	21.5	396.5	2.9	1.8	448.2	710.1	49.5
1979-80p	267.2	21.1	548.7	3.0	2.2	666.9	n.y.a.	n.y.a.

(a) Total quantity of sugar available for consumption in Australia comprises refined sugar and refined sugar contained in manufactured foods.

To apply for five years from 1 January 1978, the new International Sugar Agreement (ISA) was negotiated against a background of large world stocks and the prospect of continuing depressed market prices. Consumption of sugar is relatively unresponsive to price changes but changes in the availability of sugar can lead to large price fluctuations. World sugar consumption currently exceeds production and world prices consequently are buoyant. Stocks are estimated to have fallen to 25.1 million tonnes, representing 27.5 per cent of the year's consumption, at the end of 1979-80.

The ISA provides for an export supply control mechanism with special stock holding arrangements which come into operation at pre-determined price levels. These presently do not apply because of the buoyant world sugar prices. A Stock Financing Fund, constituted by means of a contribution on free market sugar exported to, or imported into, member countries has been approved to operate from 1 July 1980. The Fund provides interest-free loans to exporting members for the purpose of helping them to defray the costs of holding the special stocks which they are required to store under the terms of the Agreement.

Vegetables

Vegetables for human consumption

The wide range of climate in Australia enables most vegetable varieties to be grown in some part of the country. The area sown to vegetables reached a peak of over 200,000 hectares during the last year of the Second World War, but has remained static at around 108,000 hectares since 1970. However, yields from most vegetable crops have increased, due to variety breeding for increased yields, greater use of irrigation and better control of disease and insect pests.

Because of the wide climatic range, supplies for main city markets are drawn from widely different areas, depending on the times of maturity of the various crops. Historically, market gardens were located near urban centres and, while many small scale growers still produce crops close to city markets, urban expansion, rising urban land values, improvements in transport and irrigation and developments in freezing, canning and drying have extended the industry far from the cities. Transport costs are reduced by the location of processing establishments in producing areas, although city markets still absorb the bulk of fresh and processed produce.

Potatoes. Potatoes require deep friable soils which, in Australia, are usually basaltic, alluvial or swampy in origin. Fertiliser requirements, which are generally high, vary with the type of soil. While potatoes require only moderate temperatures for growth, the greatest proportion of Australia's potatoes are grown as a summer crop because potato plants are killed by heavy frosts. In recent years an increasing proportion of potatoes has been grown under irrigation and potato growing has become increasingly mechanised, with individual growers having larger areas and becoming more specialised.

Seed certification schemes or approvals which operate in most States provide supplies of seed. In Australia, potatoes are used almost entirely for human consumption or seed. Approximately 25 per cent of Australian potato consumption is in a processed form and this proportion is rising. The main processed potato products are frozen chips, crisps, dehydrated granule and flake. Other, but less important, processed potato products are soup, baby foods, salads and canned potatoes.

Potato marketing. The majority of table potatoes are marketed through potato merchants and agents. In some instances they are marketed through a primary merchant and then a secondary merchant (wholesale). In Tasmania, South Australia and Western Australia, potato marketing is controlled by Potato Marketing Boards.

Around 80 per cent of the potatoes used for processing are purchased by forward contract made directly by the processor with the grower. The remainder of the processors' requirements are usually purchased on the open market direct from growers or from merchants and, in some instances, merchants' contracts with growers as agents for processors. Seed potatoes are purchased either through a merchant or directly from a seed grower.

APPARENT CONSUMPTION OF VEGETABLES

(Kilograms per capita per year)

Year	Potatoes	Other root and bulb vegetables	Tomatoes	Leafy and green vegetables	Other vegetables	Total, fresh equivalent weight
1973-74	45.5	17.5	14.9	21.0	18.7	117.6
1974-75	51.7	17.7	10.1	21.6	19.2	120.3
1975-76	46.6	15.9	14.3	23.0	18.2	118.1
1976-77	48.9	16.0	14.6	22.4	19.7	121.5
1977-78	50.7	17.0	13.2	23.0	21.7	125.6
1978-79	52.0	17.3	13.8	27.3	23.3	133.6

VEGETABLES FOR HUMAN CONSUMPTION: AREA AND PRODUCTION

Year	French and runner beans	Cabbages and brussels sprouts	Carrots	Cauli- flowers	Onions	Green peas	Potatoes	Tomatoes	Total vege- tables
AREA ('000 hectares)									
1974-75	8.6	2.9	3.5	2.5	4.4	18.5	37.6	7.9	110.7
1975-76	7.6	2.7	3.3	2.6	4.0	19.0	33.4	7.9	105.6
1976-77	7.3	2.8	3.3	2.6	4.3	19.0	33.9	8.6	107.9
1977-78	7.0	3.0	3.3	2.6	3.8	13.9	36.1	8.5	105.4
1978-79	8.1	3.2	3.5	3.1	3.7	15.7	34.6	8.2	107.4
1979-80p	n.y.a.	n.y.a.	n.y.a.	n.y.a.	4.0	n.y.a.	37.7	8.5	109.5

Year	French and runner beans	Cabbages and brussels sprouts	Carrots	Cauli- flowers	Onions	Green peas		Potatoes	Tomatoes
						Process- ing (shelled weight)	Sold in pod (pod weight)		
PRODUCTION ('000 tonnes)									
1974-75	39.8	84.8	97.6	61.1	108.1	52.1	4.6	741.9	165.4
1975-76	40.2	73.6	81.4	70.5	94.6	44.1	2.5	696.5	162.2
1976-77	36.4	73.8	85.6	70.8	105.3	60.8	2.5	728.5	178.1
1977-78	33.4	81.1	91.9	86.4	106.8	42.7	2.4	772.4	182.4
1978-79	45.0	133.3	105.1	116.5	105.3	51.4	2.4	794.7	172.6
1979-80p	n.y.a.	n.y.a.	n.y.a.	n.y.a.	122.3	n.y.a.	n.y.a.	n.y.a.	194.3

**VEGETABLES FOR HUMAN CONSUMPTION: VALUE OF
PRODUCTION AND VALUE OF EXPORTS**

<i>Year</i>	<i>Gross value</i>	<i>Export value f.o.b. (a)</i>
	\$m	\$m
1974-75	256.2	7.9
1975-76	274.3	7.9
1976-77	295.1	11.5
1977-78	328.3	10.4
1978-79	408.3	12.5
1979-80p	423.3	20.4

(a) Fresh, frozen, simply or otherwise preserved or prepared vegetables.

PROCESSED VEGETABLES: AUSTRALIAN PRODUCTION

('000 tonnes—unless otherwise stated)

<i>Item</i>	<i>1974-75</i>	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80p</i>
Quick frozen vegetables—						
Beans	26.8	23.5	20.9	17.3	25.9	16.1
Peas	43.6	35.5	53.1	34.5	46.3	38.9
Potatoes	15.5	36.0	45.4	43.6	58.2	65.8
Other	19.6	20.8	15.9	17.3	25.1	28.3
Vegetables preserved, canned or bottled (excluding pickles, etc.)						
(a)—						
Asparagus	3.6	3.4	n.p.	n.p.	n.p.	n.p.
Beans—Green	6.8	6.7	6.4	5.0	4.9	3.7
Baked (including pork and beans)	23.9	22.1	24.1	21.4	22.9	26.1
Beetroot	28.1	26.1	25.4	26.7	28.4	25.9
Cabbage (including sauerkraut)	1.4	1.3	1.2	1.8	1.2	n.p.
Carrots	5.7	5.0	5.0	5.1	5.1	6.1
Cucumber (including pickled)	2.7	1.9	3.0	2.4	1.4	1.0
Gherkins—pickled	1.8	1.8	1.7	2.1	2.2	1.9
Olives—pickled	0.9	0.7	0.6	0.5	0.5	0.3
Onions (including pickled)	2.6	2.4	2.5	3.4	3.9	4.1
Peas—Green	10.6	10.5	12.7	9.2	15.1	9.7
Sweetcorn	10.8	6.8	n.p.	n.p.	n.p.	n.p.
Tomatoes (excluding canned pulp)	9.1	12.0	10.7	13.0	11.8	13.1
Tomato juice (million litres)	13.9	5.9	7.5	8.8	7.6	9.4

(a) Canned in tinplate or aluminium cans; bottled in glass bottles.

For further information on vegetables see the following publications: *Crops, Australia* (7302.0), *Production Bulletin No. 3: Food, Drink and Tobacco, Australia* (8359.0), *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0) and *Value of Agricultural Commodities Produced, Australia* (7503.0).

Fruit (excluding grapevines).

A wide variety of fruits are grown in Australia ranging from pineapples, mangoes and papaws in the tropics to pome, stone and berry fruits in the temperate regions.

Citrus fruits (predominantly oranges) are grown in all States except Tasmania and account for almost half of the production of all orchard fruits (including edible tree nuts). New South Wales and South Australia produce the greatest quantity of citrus, followed by Victoria; Queensland's production is much lower while that of Western Australia is very small. Pome fruits (apples and pears) account for about 40 per cent of orchard fruit grown in Australia. Tasmania, New South Wales and Victoria are the most important apple-growing States with significant quantities also being grown in the other States. About three-quarters of all Australian pears are produced in Victoria. Stone fruits (peaches, apricots, plums and prunes, cherries and nectarines) account for around one-eighth of orchard fruit production. Heaviest production is in Victoria, South Australia and New South Wales, with smaller quantities in the other States. Pineapples (about 80 per cent canned) and bananas (virtually all sold fresh) are the most important tropical fruits. Queensland produces almost all of the pineapples grown

in Australia while about 60 per cent of bananas are grown on the sub-tropical north coast of New South Wales, most of the remainder on the Queensland coast and around 6 per cent in Western Australia. Other tropical fruits grown mainly in Queensland are passionfruit, papaws, mangoes, avocados, custard apples and macadamia nuts. Olives are grown mostly in Victoria. Almonds and figs are grown mainly in South Australia. Of the berry fruits, strawberries are widely grown, with heaviest production in Victoria and Queensland. Other berries (currants and raspberries) are grown predominantly in Tasmania.

SELECTED FRUIT STATISTICS

Year	Orchard fruit: number of trees ('000)				Berry and other fruits: area (ha)			Total area of fruit (ha)
	Apples	Oranges	Pears	Peaches	Bananas	Pineapples	Small, and berry fruit	
1974-75	7,004	5,076	2,256	1,940	7,982	5,851	1,059	102,370
1975-76	6,520	5,059	1,853	1,844	7,694	5,873	959	99,822
1976-77	6,229	5,126	1,679	1,634	7,555	5,875	976	96,248
1977-78	5,933	5,239	1,622	1,557	7,041	6,001	995	94,126
1978-79	5,964	5,299	1,602	1,531	8,062	6,391	1,015	96,998
1979-80p	6,131	5,570	1,525	1,616	8,234	6,683	1,201	99,671

Year	Apples	Apricots	Bananas	Cherries	Oranges	Peaches	Pears	Pine-apples	Plums and Prunes
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PRODUCTION ('000 tonnes)

1974-75	362.8	28.1	99.9	10.5	341.0	90.3	163.0	110.5	23.1
1975-76	274.8	26.2	103.2	9.7	361.5	79.1	140.0	102.9	26.5
1976-77	301.6	26.7	115.1	6.7	321.7	66.3	105.3	111.5	22.2
1977-78	258.4	24.8	97.8	7.3	356.5	62.2	108.0	98.6	18.6
1978-79	344.9	31.0	113.1	6.7	368.5	64.8	127.6	105.1	28.9
1979-80p	n.y.a.	27.3	n.y.a.	4.0	391.6	68.8	n.y.a.	n.y.a.	26.0

GROSS VALUE OF PRODUCTION (\$ million)

1974-75	73.6	9.0	31.3	10.3	43.3	24.2	26.2	11.9	8.5
1975-76	73.7	9.2	39.8	8.6	46.0	18.3	19.6	14.2	9.4
1976-77	82.9	10.0	38.1	7.9	52.4	16.3	22.0	16.5	9.4
1977-78	81.3	11.0	49.7	7.8	63.4	16.6	35.1	16.1	9.4
1978-79	100.1	13.5	50.8	9.3	74.1	20.6	44.7	18.4	15.3
1979-80p	109.8	n.y.a.	51.0	n.y.a.	n.y.a.	24.4	45.1	24.9	n.y.a.

Processed fruit and fruit products

After rapid expansion in the 1960s, output of canned fruit declined and then levelled off due to the effects of contracting overseas markets for Australian canned fruit. Production of natural fruit juices has increased markedly in the last decade and this has reflected improvements in marketing methods, effective promotion and public awareness of the nutritious value of natural juices.

FRUIT PRODUCTION

Derived from the Annual Manufacturing Census and the recorded monthly production

	Unit	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80p
Fruit juice based cordials and syrups(a)	mil litres	60.1	72.9	68.4	77.7	70.3	75.0
Natural fruit juice(b)—							
Single strength	mil litres	179.8	187.8	156.5	227.5	n.y.a.	n.y.a.
Concentrated(c)	"	13.8	17.5	12.6	17.8	n.y.a.	n.y.a.
Cider and perry	"	10.5	10.5	11.9	11.7	n.y.a.	n.y.a.
Canned or bottled fruit (excl. canned pulp)	'000 tonnes	240.1	186.7	179.7	184.3	224.9	208.1
Jams	'000 tonnes	30.2	31.0	26.9	28.4	31.5	21.1

(a) Containing at least 25 per cent by volume of pure fruit juices.
without artificial flavourings.

(b) Excludes fruit drinks consisting of diluted fruit juices with or
(c) Excludes grape must, and comprises actual quantity of concentrated juices.

APPARENT CONSUMPTION OF FRUIT

(kg per capita per year)

Year	Fresh			Jams, conserves, etc.	Dried tree fruit	Canned and bottled fruit	Total, fresh equivalent weight
	Oranges	Other citrus	Other fresh fruit				
1973-74	24.9	6.4	33.5	2.2	0.7	10.2	89.4
1974-75	30.8	6.0	32.7	2.5	0.5	10.1	91.2
1975-76	33.5	6.2	33.3	1.9	0.5	9.7	95.7
1976-77	26.2	6.6	33.0	2.0	0.4	10.1	88.2
1977-78	25.6	10.2	30.0	1.8	0.6	10.6	88.3
1978-79p	28.0	7.9	30.2	2.3	1.0	10.8	85.4

Fruit exports

The gross value of exports of fruit and fruit products (excluding grapes) has in recent years accounted for some 4 per cent of the value of all food crops and their products. Fresh or chilled fruit (mostly apples, pears and citrus) account for about 27.5 per cent of this; preserved fruit (mostly canned pears and peaches) make up most of the remainder; only small quantities of dried fruits (other than grapes) are exported.

Value of exports of fresh, dried and preserved fruit in recent years peaked at \$90 million in 1972-73, trending downwards since that time although exports of preserved fruit showed some revival in 1976-77. Since 1977-78 there has been a significant increase in the value of exports of fresh fruit while preserved fruit fell a little from the relatively high 1976-77 value. Exports of fresh citrus will continue to be greatly influenced by crop prospects in the U.S.A.

Fresh fruit exports to Europe have been reduced in recent years mainly because of rising shipping costs and improved storage techniques in Europe. On the other hand, there has been some expansion to markets in other areas such as South East Asia. Effects of the E.E.C. import regime has shown in a decrease in processed fruit exports to Europe, although the U.K. remains Australia's main market.

FRUIT EXPORTS: VALUE F.O.B.

(\$ million)

Year	Fresh and chilled			Canned or bottled					
	Apples	Pears	Oranges	Apricots	Peaches	Pears	Peaches and pears	Pine- apples	Fruit salad
1974-75	16.1	8.2	2.1	1.5	9.7	11.9	3.1	1.3	5.7
1975-76	12.8	10.1	2.9	1.1	13.3	10.5	2.0	1.6	4.1
1976-77	9.4	8.1	1.0	0.9	14.5	16.1	2.1	1.7	4.5
1977-78	13.8	9.5	4.3	0.8	13.4	13.6	2.3	1.5	3.8
1978-79	15.6	15.7	5.6	0.8	12.2	17.2	1.9	1.2	4.3
1979-80p	20.1	18.3	9.9	1.5	19.3	20.0	3.6	3.1	7.6

FRUIT: VALUE OF PRODUCTION AND EXPORTS

(\$ million)

Year	Gross value			Exports(a) value f.o.b.
	Orchard fruit	Berry and other	Total	
1974-75	215	51	267	71
1975-76	206	63	269	68
1976-77	226	64	290	72
1977-78	256	78	334	79
1978-79	319	82	401	95
1979-80p	n.y.a.	n.y.a.	431	131

(a) Fruit and nuts, excluding grapes (fresh and dried); includes fresh, dried and preserved and fruit preparations.

Fruit imports

Imports of fresh fruit are negligible, while most dried fruit imports consist of dates from Iran, the United States of America and China (excluding Taiwan Province). Imports of orange juice have increased considerably from 33.5 million litres in 1975–76 to 54.0 million litres in 1979–80.

Marketing and regulation of the fruit industry

Apples and pears. The Australian Apple and Pear Corporation replaced the Australian Apple and Pear Board in September 1974, absorbing that Board's export control and regulation functions. The Corporation has a wider role than the former Board, e.g. powers to trade under certain circumstances, to charter shipping for international trade, to borrow funds, subject to Government approval, for trading operations, and to promote and research both fresh and processed apple and pear products.

A Government-approved stabilisation scheme covering apples and pears was introduced with the 1971 season. It has been decided that the scheme for pears should lapse with the 1980 season and the scheme for apples to be phased down over the four seasons, 1981 to 1984. The scheme which stabilizes returns from exports to approved 'at risk' markets, establishes average seasonal export returns for each variety of fruit which are then compared with the corresponding support price to determine the extent of the deficiency or surplus. Separate Export Underwriting Schemes covering apple and pear exports are to be introduced for the seasons 1981 to 1985. These will establish a guaranteed minimum export return for each kind of fruit at 95% of the corresponding average export return over the previous four seasons.

Fruitgrowing Reconstruction Scheme. For details see Year Book No. 61, pages 846–7.

Canned Fruit. On 1 January 1980 the Commonwealth enacted legislation restructuring the industry's marketing arrangements. Similar complementary State legislation has been enacted by the N.S.W., Victorian and South Australian State Governments and is expected to be enacted by the Queensland Government in the near future.

Under the legislation the Australian Canned Fruits Corporation (replacing the Australian Canned Fruits Board) is empowered to acquire and sell the production of canned apricots, peaches and pears and is responsible for determining prices and terms and conditions for sales in all markets. Sales are made through marketers nominated by canners and approved by the Corporation. Markets are classified as Pool and Non-Pool with returns from Pool markets equalised by the Corporation. Entitlements for sales in Pool markets are allocated to canners prior to the start of each season.

The Corporation's administrative expenses are financed by a levy imposed on the production of canned fruits under the Canned Fruits Levy Act 1979.

The Corporation is advised in the performance of its functions by the Australian Canned Fruits Industry Advisory Committee.

The Australian Canned Fruit Sales Promotion Committee was established to promote the sale of canned deciduous fruit. The Committee is financed by a levy on canned fruit under the Canning-Fruit Charge Act 1959.

For further data on fruits and fruit products see the publications *Fruit, Australia* (7303.0), *Production Bulletin No. 3: Food, Drink and Tobacco, Australia* (8359.0), *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0) and *Value of Agricultural Commodities Produced, Australia* (7503.0).

Grapevines

Grapes are a temperate crop which requires warm to hot summer conditions for ripening and predominantly winter rainfall. Freedom from late spring frosts is essential. They are grown for wine-making, drying and, to a minor extent, for table use. Some of the better known wine producing areas are the Murray River Valley, Sunraysia (N.S.W. and Victoria); Barossa, Clare, Riverland, Southern Districts and Coonawarra (S.A.); North Eastern Victoria and Great Western (Vic.), Hunter and Riverina (N.S.W.); Swan Valley and Margaret River (W.A.).

Nearly all the dried fruit is produced along the River Murray and its tributaries in Victoria and N.S.W. with small localised areas in other States.

VITICULTURAL STATISTICS: AREA, PRODUCTION AND VALUE

Year	Area		Production: grapes used for—			
	Bearing	Total	Winemaking	Drying	Total(a)	
					Quantity	Gross value
	'000 ha	'000 ha	'000 tonnes fresh weight	'000 tonnes fresh weight	'000 tonnes fresh weight	\$m
1974-75	64.0	71.3	424.6	280.5	728.7	101.4
1975-76	63.1	70.4	418.5	270.4	711.0	102.3
1976-77	64.4	71.1	457.4	250.0	728.4	128.5
1977-78	64.9	71.1	430.3	236.3	693.6	141.6
1978-79	65.8	70.6	465.6	227.1	716.4	150.8
1979-80p	66.1	71.2	521.8	350.9	897.3	198.7

(a) Includes grapes used for table and other purposes.

The bearing area of grapes has risen by about 24 per cent since 1970-71, the new plantings being mainly of specialised wine grapes. Production of winegrapes has increased by over 70 per cent since 1970-71. The multipurpose grape production base has not shown much change over this period, apart from annual variations due to seasonal conditions. Multipurpose grapes are used predominantly for winemaking and drying, the latter process being particularly susceptible to any adverse seasonal conditions. There has been an increased diversion of multipurpose grapes to winemaking over the past decade and this has resulted in a decline in the volume of grapes dried. Since the domestic consumption of dried vine fruit is stable at about 1.5 kg per head per year, reductions in grapes dried, result in lower exports. However, a world shortage, caused by damage to crops and unstable political conditions over the past three years has created a return to buoyant market conditions. The Australian Dried Fruits Corporation, is the body responsible for the organisation of the export trade in vine fruits. The Corporation also administers the statutory Dried Vine Fruit Equalisation Scheme.

Varietal Statistics: 1979 Season

Varietal information relating to vines, grape production by end use and yield per hectare, is obtained in a special collection conducted at 30 June in New South Wales, Victoria, South Australia and Western Australia of all growers who reported vines in the Agricultural Census. No varietal information is collected in the other States and Territories. There is continuing research into correct identification of varieties to find out which are most suitable for different wine styles and different regions and several varieties have recently been re-named. The varieties used in the next table are those recommended by the Commonwealth Grape Advisory Subcommittee which was abolished in September 1977 but have not as yet been corrected by recent research. These varieties have been classified by the Bureau of Agricultural Economics (October 1978) according to four categories—red wine grapes, white wine grapes, multipurpose grapes and other grapes. The data are aggregated from the States of New South Wales, Victoria, South Australia and Western Australia only.

VITICULTURE: AREA AND PRODUCTION BY VARIETY, 1979 SEASON

Variety	Area (hectares)		Production: grapes used for—(tonnes, freshweight)		
	Bearing	Total	Winemaking	Drying and Table	Total
Red Wine Grapes—					
Cabernet Sauvignon	3,792	4,228	24,609	62	24,671
Grenache	5,606	5,731	52,267	645	52,912
Mataro	1,730	1,782	12,523	164	12,687
Shiraz	9,337	9,608	71,644	800	72,444
Other red wine grapes	1,840	2,093	12,877	2,437	15,314
<i>Total</i>	<i>22,305</i>	<i>23,442</i>	<i>173,920</i>	<i>4,108</i>	<i>178,028</i>
White Wine Grapes—					
Doradillo	2,083	2,148	35,544	422	35,966
Palomino, Pedro Ximenez	2,712	2,773	35,657	25	35,682
Rhine Riesling	2,960	3,831	23,107	10	23,117
Clare Riesling	1,059	1,137	13,946	—	13,946
Semillon	2,537	2,804	29,205	32	29,237
Trebbiano	1,597	1,808	20,366	48	20,414
Other white wine grapes	2,460	3,393	18,427	1,210	19,637
<i>Total</i>	<i>15,408</i>	<i>17,894</i>	<i>176,252</i>	<i>1,747</i>	<i>177,999</i>
Multipurpose Grapes—					
Currant	1,967	2,042	218	16,960	17,178
Muscat Gordo Blanco	3,998	4,445	60,090	7,630	67,720
Sultana	18,262	18,599	49,731	199,836	249,567
Waltham Cross	1,571	1,663	2,809	11,877	14,686
<i>Total</i>	<i>25,798</i>	<i>26,749</i>	<i>112,848</i>	<i>236,303</i>	<i>349,151</i>
Other Grapes(a)—					
Muscat Hamburgh	546	589	1,917	1,234	3,151
Ohanez	286	326	366	1,561	1,927
<i>Total</i>	<i>832</i>	<i>914</i>	<i>2,283</i>	<i>2,795</i>	<i>5,078</i>
Total Grapes	64,342	68,999	465,303	244,953	710,256

(a) These grapes are specialist table grapes.

DRIED VINE FRUIT: PRODUCTION, EXPORTS AND CONSUMPTION

(Dried weight)

Year	Production				Exports			Consumption of dried vine fruit	
	Raisins	Sultanas	Currants	Total	Raisins/ sultanas	Currants	Total	Value f.o.b.	
							Quantity		
	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	\$m	kg
1974-75	5.2	53.4	6.3	64.9	31.4	0.2	31.6	20.0	1.3
1975-76	5.6	55.3	4.3	65.2	51.3	2.4	53.7	27.1	1.6
1976-77	4.9	49.6	6.1	60.6	43.4	0.9	44.4	26.7	1.5
1977-78	5.4	50.9	4.3	60.6	33.9	2.0	36.1	35.8	1.3
1978-79	4.7	46.4	4.1	55.3	45.4	1.8	47.5	46.9	0.5
1979-80p	n.y.a.	n.y.a.	n.y.a.	n.y.a.	39.0	2.3	41.5	55.1	n.y.a.

Wine industry

Australia produces brandy and wine of every type. In recent years there has been a distinct trend towards greater consumption and production of unfortified or table wines. Until 1957-58 production of these wines (which include burgundy, claret, riesling, sauterne and sparkling wines) was less than half that of the fortified varieties (sherries, ports, etc.) By 1970, however, table wines had exceeded the volume of fortified wines.

PRODUCTION, CONSUMPTION AND EXPORT OF WINES

Year	Pro- duction	Exports		Consump- tion in Australia per capita
		Quantity	Value f.o.b.	
	mil. litres	mil. litres	\$m	litres
1974-75	361.2	6.5	5.3	12.3
1975-76	356.2	6.2	5.5	13.0
1976-77	383.1	5.0	5.4	13.7
1977-78	339.6	4.7	5.4	14.3
1978-79	335.1	5.3	6.3	16.5
1979-80p	414.2	6.1	8.4	17.4

For further details on viticulture, dried vine fruit, wine, etc. see the following publications: *Fruit, Australia* (7303.0), *Sales and Stocks of Australian Wine and Brandy* (8504.0) and *Viticulture, Australia* (7310.0)

Miscellaneous crops

The principal crops not covered above include fodder crops, tobacco, hops, and mushrooms which, in 1978-79, had gross values as follows:

Crops	Gross value	Per cent of total crop gross value
	\$m	%
Fodder crops (hay)	40.2	0.8
Tobacco	76.0	1.6
Hops	5.6	0.1
Mushrooms	14.7	0.3
Other	137.1	2.9

Fodder crops

As well as crops specifically for grain, considerable areas of Australia are devoted to fodder crops. These crops are utilised either for grazing (as green feed), or conserved as hay, ensilage, etc.

This development of fodder conservation as a means of supplementing pasture and natural sources of stockfeed is the result of the comparatively unreliable nature of rainfall in Australian agricultural areas.

FODDER CROPS: AREA AND PRODUCTION

Year	Hay(a)			Green feed or silage(b)	
	Area	Production		Area	Silage made
		Quantity	Gross value		
	'000 ha	'000 tonnes	\$m	'000 ha	'000 tonnes
1974-75	216	669	20.4	853	529
1975-76	230	738	25.5	752	392
1976-77	287	891	31.4	709	311
1977-78	313	795	35.4	862	210
1978-79	293	955	40.7	823	335
1979-80p	268	n.y.a.	n.y.a.	912	n.y.a.

(a) Principally oaten and wheaten hay.

(b) Principally from oats, barley, wheat and forage sorghum.

FARMSTOCKS OF CEREAL GRAINS, HAY AND SILAGE

('000 tonnes)

At 31 March	Cereal grains				
	Barley	Oats	Wheat	Hay	Silage
1974	609	1,043	849	7,157	1,399
1975	442	861	731	6,582	1,250
1976	494	918	769	5,684	1,096
1977	487	890	803	5,016	842
1978	463	819	760	3,928	709
1979	637	1,256	880	5,355	753

Tobacco

Tobacco is a summer-growing annual which requires a temperate to tropical climate, adequate soil moisture and frost-free period of approximately five months. In Australia, all tobacco is grown under irrigation. Because of specialised requirements, production is limited to areas with suitable soils and climate. The main centres of production are the Mareeba-Dimbulah districts of north Queensland and Myrtleford in north-eastern Victoria. Other areas where tobacco is grown include Bundaberg, Beerwah and Texas (Queensland), Ashford (New South Wales) and Gunbower (Victoria). All tobacco grown in Australia is of the flue-cured type except for small quantities of burley tobacco produced mainly in Victoria.

TOBACCO: AREA, PRODUCTION AND OVERSEAS TRADE

Year	Area	Production (dried leaf)	Exports (value f.o.b.)		Imports (value)	
			Unmanu- factured	Manu- factures	Unmanu- factured	Manu- factures
	'000 ha	'000 tonnes	\$'000	\$'000	\$'000	\$'000
1974-75	9.2	15.5	34	3,100	26,076	15,474
1975-76	9.2	14.9	27	3,824	30,315	18,994
1976-77	9.4	16.1	522	4,981	26,440	20,569
1977-78	8.5	15.1	823	7,601	38,640	24,072
1978-79	8.1	15.0	693	7,074	36,148	23,588
1979-80p	7.6	n.y.a.	4,161	9,137	42,394	25,234

Marketing. In 1965 the Commonwealth and State Governments agreed to a stabilisation plan and an overall marketing quota was decided upon. The plan is administered by the Australian Tobacco Board. Further information on tobacco marketing, research and factories may be found in Year Book No. 61, pages 845-6.

Hops

Hops are grown from perennial rootstocks over deep, well-drained soils in localities sheltered from the wind. The hop-bearing vine shoots are carried upon wire and coir trellises, from which they are later harvested. The green hops are kiln-dried and bleached with sulphur dioxide fumes, following which the cured hops are pressed into bales.

Hop growing in Australia is confined to the Derwent, Huon and Channel areas in the south-east and the Scottsdale-Ringarooma district in the north-east of Tasmania, and the Ovens and King Valleys in Victoria. A small area near Manjimup in Western Australia is under hops.

The area planted to hops is about 1,000 hectares, with over 55 per cent in Tasmania. Production is about 2,200 tonnes, 60 per cent of which is used by breweries with the remainder being exported.

Mushrooms

Statistics of mushroom growing were collected for the first time in all States for the year ended 30 June 1975.

MUSHROOMS: AREA, PRODUCTION, GROSS VALUE AND IMPORTS

Year	Total production			Canned or bottled production	Imports		Canned or bottled	
	Area	Quantity	Gross value		Dried		Quantity	Value f.o.b.
					Quantity	Value f.o.b.		
	hectares	tonnes	\$m	tonnes	tonnes	\$'000	'000 litres	\$'000
1974-75	50	6,007	7.1	6,881	88	664	3,903	2,857
1975-76	48	6,616	10.0	5,416	50	438	3,159	2,466
1976-77	56	7,130	9.9	6,789	82	870	4,497	5,532
1977-78	55	7,289	12.6	6,611	97	998	5,030	6,855
1978-79	53	7,806	14.7	5,718	88	964	3,738	4,723
1979-80p	n.y.a.	n.y.a.	n.y.a.	4,856	93	1,082	4,482	5,486

Livestock

Since 1861, annual enumerations of livestock have been made based, with few exceptions, on actual collections made through the agency of the State police or by post. Particulars concerning the numbers of each of the principal kinds of livestock in Australia at ten-yearly intervals from 1861 to 1971, and then from 1975 on in single years, are given in the following table.

LIVESTOCK: AUSTRALIA, 1861 TO 1980

('000)

Year	Cattle	Sheep	Pigs	Year	Cattle	Sheep	Pigs
1861	3,958	20,135	351	1951	15,229	115,596	1,134
1871	4,276	41,594	543	1961	17,332	152,679	1,615
1881	7,527	62,184	816	1971	24,373	177,792	2,590
1891	10,300	97,881	891	1975	32,793	151,653	2,197
1901	8,640	70,603	950	1976	33,434	148,643	2,173
1911	11,745	98,066	1,026	1977	31,533	135,360	2,229
1921	13,500	81,796	674	1978	29,330	131,445	2,217
1931	11,721	110,568	1,072	1979	27,112	134,222	2,301
1941	13,256	122,694	1,797	1980p	26,321	135,706	2,488

While livestock numbers (particularly sheep) have increased substantially since 1861, marked fluctuations have taken place during the period, mainly on account of widespread droughts which have from time to time left their impressions on the pastoral history of Australia. These occurred in 1868, 1877, 1883-84, 1892, 1893, 1895, 1901-2, 1912, 1914, 1918, 1919, 1922-23, 1925-26, 1927-28, 1929-30, 1940-41, 1944-45 to 1946-47, and 1965-67. The years in which the numbers of livestock attained their peaks are as follows: cattle, 1976 (33,434,000); sheep, 1970 (180,080,000); and pigs, 1973 (3,259,000).

Cattle

Cattle-raising is carried out in all States, the main object in certain districts being the production of stock suitable for slaughtering purposes and in others the raising of profitable dairy herds. While dairy cattle are restricted mainly to coastal districts, beef cattle are more widely distributed in areas such as the tropical area of northern Queensland, the Northern Territory and the Kimberley district in the north of Western Australia. Although cattle numbers declined after 1957 because of drought conditions and heavy slaughterings, they began to increase in 1960 and in 1964 reached 19,055,000. Again because of drought in the eastern States, this figure declined to 17,936,000 in 1966. There was a continuous increase in the total number of cattle in Australia until 1976 followed in the next four years by a decline to below the 1972 level.

Beef cattle production is often combined with cropping, dairying and sheep. In the north (north of the 26th parallel), cattle properties are very large, pastures are generally unimproved and fodder crops are rare. Beef is usually the only product and herd sizes are large. The industry is more intensive in the south because of the more favourable environment including more improved pasture.

For further details on cattle *Livestock, Australia* (7203.0).

CATTLE NUMBERS

('000)

31 March	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Aust. (incl. A.C.T.)
1975	8,935	6,192	10,879	1,869	2,544	921	1,434	32,793
1976	9,138	5,868	11,347	1,891	2,654	909	1,603	33,434
1977	8,348	5,104	11,506	1,608	2,464	819	1,664	31,533
1978	7,330	4,572	11,490	1,242	2,271	733	1,674	29,330
1979	6,484	4,134	10,859	1,086	2,092	657	1,785	27,112
1980p	6,099	4,252	10,332	1,067	2,065	649	1,730	26,208

Classification of cattle

CATTLE NUMBERS, BY AGE, SEX, PURPOSE

('000)

Classification	31 March					
	1975	1976	1977	1978	1979	1980p
Milk cattle—						
Bulls used or intended for service	78	73	65	60	55	56
Cows, heifers and heifer calves	3,527	3,407	3,095	2,902	2,733	2,697
House cows and heifers	122	122	105	99	78	77
<i>Total, milk cattle</i>	3,727	3,602	3,265	3,062	2,867	2,830
Meat cattle—						
Bulls used or intended for service	702	687	628	571	544	545
Cows and heifers (1 year and over)	14,897	15,202	14,021	12,728	11,774	11,732
Calves under 1 year	7,751	8,055	7,385	6,513	5,837	5,445
Other cattle (1 year and over)	5,716	5,888	6,235	6,456	6,090	5,656
<i>Total, meat cattle</i>	29,066	29,833	28,269	26,268	24,245	23,378
<i>Total, all cattle</i>	32,793	33,434	31,533	29,330	27,112	26,208

Comparison with other countries

SELECTED COUNTRIES CATTLE NUMBERS

(Millions)

(Source: Australian Meat and Livestock Corporation)

Country	1978	1979	1980p	Country	1978	1979	1980p
Argentina	62	60	60	India	243	243	241
Australia	29	27	26	Mexico	30	29	30
Brazil	89	90	93	United States of America	116	111	111
European Economic Community	77	78	78	U.S.S.R.	113	114	115

Sheep

With the exception of a short period in the early eighteen-sixties, when the flocks in Victoria outnumbered those of New South Wales, the latter State has occupied the premier position in sheep-raising. Western Australia is the second largest sheep raising State followed by Victoria. Sheep numbers reached a peak in Australia in 1970. They then declined up to March 1973 as producers turned off large numbers for slaughter and moved from wool-growing towards grain and beef production. By 1975, the numbers had increased to 151,653,000, but in March 1978 the numbers had fallen to 131,442,000, the lowest since 1955. Improved seasonal conditions during 1978, which continued into 1979 have enabled producers to begin rebuilding their flocks. By March 1980, numbers had risen to 136.0 million.

SHEEP NUMBERS
(Millions)

<i>31 March</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust. (incl. N.T., A.C.T.)</i>
1975	55.0	26.4	13.9	17.6	34.5	4.1	151.7
1976	53.2	25.4	13.6	17.3	34.8	4.2	148.6
1977	49.7	21.9	13.3	15.1	31.2	4.0	135.4
1978	48.0	22.0	13.4	14.1	29.8	4.0	131.4
1979	48.4	22.8	13.6	14.9	30.3	4.2	134.2
1980p	48.6	24.4	12.2	16.0	30.4	4.2	136.0

SHEEP, BY AGE AND SEX
(Millions)

	Sheep: 1 year and over				Lambs and hoggets (under 1 year)	Total, sheep and lambs
31 March	Rams	Breeding ewes	Other ewes	Wethers		
1975	1.9	70.6	7.0	37.1	35.0	151.7
1976	1.9	68.5	7.7	37.5	33.1	148.6
1977	1.7	64.7	6.3	34.8	27.8	135.4
1978	1.7	63.6	5.4	32.6	28.2	131.4
1979	1.7	65.9	4.7	31.6	30.4	134.2
1980p	1.7	66.5	5.0	30.5	32.3	136.0

SHEEP AND LAMBS: ANALYSIS OF MOVEMENT IN NUMBERS
(Millions)

<i>Year ended 31 March</i>	<i>Number at beginning of season</i>	<i>Lambs marked</i>	<i>Live sheep exports</i>	<i>Sheep and lambs slaughtered (a)</i>	<i>Estimated deaths on farms (b)</i>	<i>Number at end of season</i>
1975	145.2	46.2	1.4	27.2	11.2	151.7
1976	151.7	44.1	1.8	31.7	13.6	148.6
1977	148.6	38.4	3.0	34.1	14.6	135.4
1978	135.4	39.5	4.2	30.1	9.1	131.4
1979	131.4	42.5	3.7	26.9	9.1	134.2
1980p	134.2	45.8	5.4	29.9	8.7	136.0

(a) Comprises statistics from abattoirs and other major slaughtering establishments and includes estimates of animals slaughtered on farms and by country butchers; also includes animals condemned or those killed for boiling down. (b) Balance item.

LAMBING

<i>Year ended 31 March</i>	<i>Number of breeding ewes at start of season</i>	<i>Mating intentions at start of season</i>	<i>Actual matings</i>	<i>Ratio of actual matings to intended matings</i>	<i>Lambs marked</i>	<i>Ratio of lambs marked to actual matings</i>	<i>Ratio of lambs marked to breeding ewes</i>
	<i>million</i>	<i>million</i>	<i>million</i>	<i>per cent</i>	<i>million</i>	<i>per cent</i>	<i>per cent</i>
1975	70.0	65.2	60.9	93	46.2	76	66
1976	70.6	65.1	60.5	93	44.1	73	62
1977	68.5	63.0	58.0	92	38.4	66	56
1978	64.7	59.8	56.6	95	39.5	70	61
1979	63.6	58.5	57.1	98	42.5	74	67
1980p	65.9	61.9	59.6	96	46.2	78	70

In 1979-80 provisional value of production data for the sheep and wool industry showed that the combined value of wool and sheep slaughtered accounted for about one-fifth the gross value of all agriculture. This proportion varies with wool and meat prices and seasonal conditions. In 1979 Australia had 14 per cent of the world's woolled sheep but produced 27 per cent of the world's greasy wool output. In addition, in 1979-80 the sheep industry produced over half a million tonnes of mutton and lamb, a big decrease from the record production of 956,000 tonnes in 1971-72, which resulted from high slaughtering rates linked to very low wool prices prevailing at the time. Since 1973-74 there has been a strong growth in exports of live sheep for slaughter, exports reaching 6 million head in 1979-80.

Comparisons with other countries

WORLD SHEEP NUMBERS AND WOOL PRODUCTION
(Compiled from the Commodities Division of the Commonwealth Secretariat)

Country	World sheep numbers			Est. raw wool production		
	1978	1979	1980p.	1978	1979	1980p
	(millions)			('000 tonnes, greasy)		
Argentina	34.8	35.2	n.y.a.	172	171	172
Australia	131.4	134.2	136.0	677	706	720
Brazil	25.1	25.1	n.y.a.	28	29	29
China (excl. Taiwan Province)	90.4	95.2	102.3	100	100	100
India	40.0	40.0	n.y.a.	35	35	35
Iran	35.4	35.5	n.y.a.	28	28	28
New Zealand	62.2	63.7	n.y.a.	311	321	338
South Africa	25.0	24.3	n.y.a.	106	101	99
Turkey	42.7	42.7	n.y.a.	55	57	57
United Kingdom	29.7	30.0	n.y.a.	46	49	48
Uruguay	16.5	17.5	n.y.a.	62	64	73
U.S.A.	12.3	12.2	12.5	50	47	47
U.S.S.R.	141.0	142.6	143.6	459	463	472
Total	961.0	978.5	n.y.a.	2,578	2,636	2,689

For further details on sheep, see the publications *Livestock, Australia* (7203.0) and *Wool, Australia* (7212.0).

Pigs

In line with the general trend of increased specialisation common to most agricultural industries, pig farming has developed into a separate industry, no longer being associated with the dairy industry. During the period of wheat quotas and generally low grain prices, pig raising became a profitable outlet for non-quota wheat, but higher grain prices during the mid 1970s led to some contraction in the pig industry. After 1975 numbers stabilised at approximately 2.2 million pigs. Over the past year, pig numbers rose by 10 per cent to 2.5 million. Pig raising became increasingly associated with inland areas, though most are raised on farms, usually in association with dairy and cereal production. Grains form the basis of most pig rations and this has assisted with the movement to inland grain-growing districts. This is less marked in coastal regions where skim milk, the traditional source of pig feed, is being diverted to other uses.

PIG NUMBERS
('000)

31 March	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust. (incl. N.T., A.C.T.)
1975	729	383	400	349	264	64	2,197
1976	709	393	409	326	260	70	2,173
1977	760	397	441	317	242	65	2,229
1978	737	401	463	311	237	64	2,217
1979	759	390	487	330	271	61	2,301
1980p	830	422	510	398	293	63	2,519

For further details on pigs see the publication *Livestock, Australia* (7203.0).

Poultry

Once part of the mixed farming sector, the poultry industry is now a highly specialised and distinct industry. The bulk of production is obtained from this commercial source, though many farm households and some private homes in suburban areas keep poultry to supply their domestic needs. Some supplies from this source are also marketed. Because the data from this latter sector is incomplete, total poultry numbers for Australia are not available. There is an increasing tendency for specialisation within the industry into hatcherymen, egg producers and broiler producers. These sectors of the industry each have separate statistics. There are also separate research schemes for the egg and meat chicken industries. Both sectors are good examples of the general movement towards specialised, large scale, capital-intensive production which is common to many agricultural industries.

POULTRY NUMBERS(a) (*000)

31 March	Chickens				Other poultry			Total all poultry
	Hens and pullets for egg production	Meat strain chickens (broilers)	Other fowls and other chickens	Total chickens	Ducks	Turkeys	Other poultry	
1975	16,409	22,592	1,758	40,759	164	413	(b)	41,336
1976	15,905	25,306	1,566	42,917	254	333	(b)	43,504
1977	15,982	27,184	(b)	43,341	187	347	397	44,272
1978	15,773	26,681	(b)	42,637	163	322	330	43,452
1979	16,281	26,825	(b)	43,214	247	448	321	44,229
1980p	16,433	29,967	(b)	46,749	272	1,016	218	48,255

(a) Data are for numbers of poultry on rural establishments as reported in the annual Agricultural Census. (b) Not collected.

Hatchings. These details relate to all eggs set and to chicks hatched in commercial hatcheries whether for sale as day-old chicks or for replenishment of own flocks.

EGGS SET AND CHICKENS HATCHED IN COMMERCIAL HATCHERIES (*000)

Year	Chickens hatched, intended for—			
	Chicken meat			
	Eggs set(a)	Meat strains(b)	Egg strains(c)	Egg production(d)
1974-75	225,610	140,139	856	15,634
1975-76	242,351	158,088	585	14,664
1976-77	260,697	168,724	515	15,578
1977-78	277,572	186,984	473	13,938
1978-79	297,177	204,291	482	13,713
1979-80p	353,837	248,497	571	14,454

(a) Includes meat and egg strains and eggs which failed to hatch. (b) Unsexed. (c) Crossbred and other cockerels; unsexed egg strain chickens are evenly distributed to chicken meat chickens and egg production chickens. (d) Pullets.

For further details on poultry see the publications *Livestock, Australia* (7203.0) and *Chicken Hatchings and Poultry Slaughterings, Australia* (7207.0).

Meat production, slaughterings and other disposals

The ABS collects details of slaughterings and meat production from abattoirs, commercial poultry and other slaughtering establishments and includes estimates of animals slaughtered on farms and by country butchers. The data relate only to slaughterings for human consumption and does not include animals condemned or those killed for boiling down.

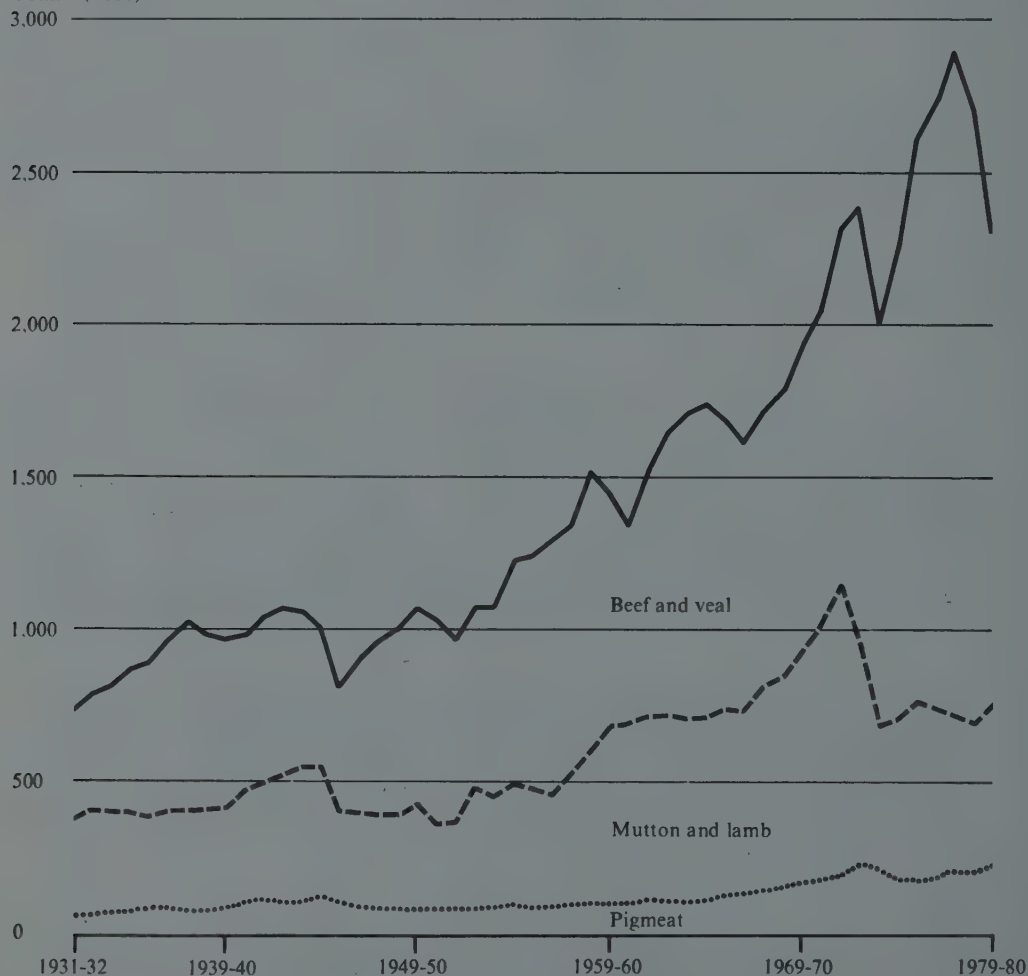
PRODUCTION OF MEAT BY TYPE(a)
(^{'000 tonnes})

Year	Carcass weight					Dressed weight(b)		
	Beef	Veal	Mutton	Lamb	Pig meat	Total meat	Chickens	Total all poultry(c)
1974-75	1,494	53	258	269	175	2,249	166	189
1975-76	1,759	82	326	262	174	2,602	184	204
1976-77	1,890	98	304	246	185	2,722	196	218
1977-78	2,080	104	261	253	199	2,897	220	246
1978-79	1,947	71	239	253	199	2,708	240	267
1979-80p	1,502	56	274	265	216	2,313	282	313

(a) Excludes offal.

(b) Dressed weight of whole birds, pieces and giblets.

(c) Includes other fowls, turkeys, ducks and drakes.

PRODUCTION OF MEAT : AUSTRALIA, 1931-32 TO 1979-80Tonnes (^{'000})

NUMBERS OF LIVESTOCK AND POULTRY SLAUGHTERED FOR HUMAN CONSUMPTION
(Million head)

Year	Cattle	Calves	Sheep	Lambs	Pigs	Chickens (a)	Other fowls (b) and turkeys	Ducks and drakes
1974-75	6.9	1.5	12.7	16.0	3.4	134.2	10.5	1.3
1975-76	8.5	2.1	16.8	16.1	3.3	144.2	9.2	1.2
1976-77	9.5	2.5	16.3	15.3	3.5	155.1	9.8	1.3
1977-78	10.4	2.5	13.8	15.3	3.7	174.7	10.7	1.7
1978-79	9.5	1.8	12.0	14.8	3.6	188.2	10.8	1.8
1979-80p	7.3	1.6	13.9	16.0	3.8	222.4	11.2	2.2

(a) Comprises broilers, fryers and roasters.

(b) Comprises hens, roosters, etc.

Mutton and lamb

Production of sheepmeats in Australia is closely associated with the wool industry. Sheep grazing often occurs on mixed farms in conjunction with beef and/or grain enterprises and in some areas producers specialise in lamb production. The supply of sheepmeat depends greatly on seasonal conditions, decisions to build up or reduce flock numbers, expectations of wool prices, live sheep exports and the pattern of domestic consumption of meat.

There was a movement out of sheep raising in Australia early in the 1970's principally as a result of low wool prices and many producers diversified into cattle and grains. Flock numbers declined from a peak of 180 million in 1970 to a low of 131 million by 1978. Since 1978, wool and sheepmeat prices have improved, the trade in live sheep for slaughter overseas has continued to expand and the national flock size has increased slightly to 136 million by March 1980.

Sheepmeat production declined rapidly from the high levels of the early 1970s, which were associated with flock reduction, to annual levels of between 500,000 and 600,000 tonnes since 1973-74. Lamb production has remained close to 250,000 tonnes per year in recent years, while mutton production has varied greatly between 216,000 tonnes and 304,000 tonnes.

A high proportion of lamb is consumed in Australia with per capita consumption remaining steady at about 14-16 kilograms per year, though in recent years export markets for lamb in the Middle East have been developed. A high proportion of mutton produced is exported. Australia is the world's largest exporter of mutton, with Japan and the U.S.S.R. being the main markets.

Live sheep exports for slaughter overseas have increased from one million head in 1973-74 to six million head in 1979-80 equivalent to 22,000 tonnes of mutton in 1973-74 and 130,000 tonnes of mutton in 1979-80, representing about one third of all sheepmeat (lamb, mutton and live sheep) exported in 1979-80.

Beef and Veal

The cattle industry is very dependent on international trade in beef and is subject to great fluctuations. About half of Australia's beef and veal production is exported, with the U.S.A. and Japan as the main outlets.

Beef and veal production in Australia rose markedly in the seventies, reaching peak levels of over 2 million tonnes in 1977-78 and 1978-79, but declining to 1.6 million tonnes in 1979-80. The increase in production followed the rapid expansion of the beef herd that had occurred during the late sixties and early seventies mainly in response to relatively profitable beef prices and increased demand from overseas markets.

In the mid 1970's, poor economic conditions and heavy domestic supplies of beef in major importing countries led them to impose severe restrictions on their imports. With reduced international demand and heavy supplies in Australia, saleyard prices fell greatly and remained low for about four years. The depressed conditions were accompanied by a severe reduction in the national herd.

Movements in beef prices in Australia have closely followed those in the cyclical U.S. industry in recent years. Greatly improved prices in 1979 and 1980 led Australian cattle producers to retain, rather than turn-off, breeding stock for slaughter thus pointing to slow herd expansion and continued low levels of beef production in the early eighties.

Pigmeat

Historically, pigmeat production has been cyclical and linked with dairying. Over the past 15 years, pig raising has become a specialised pursuit based on intensive rearing of grain fed pigs. This has facilitated growth in numbers of larger units and greater concentration on quality of pigmeat. The proportion of pigmeat going to processing has risen markedly over the period.

Production of pigmeat rose in the late seventies to reach 216,000 tonnes in 1979-80. The continuing rise in average slaughter weight has reflected the increased quantities of pigmeat going to canning and curing and the expanding sales of heavier pigs (e.g. between 50 and 70 kilograms) for the fresh pork trade compared with the traditional porker weight pigs of under 40 kilograms.

The industry disposes of almost all of its output on the domestic market.

Poultry

The poultry meat industry has developed rapidly since 1970 and both output and consumption have risen steeply. Genetic and technical improvements and the organisation of the industry into large-scale enterprises have raised efficiency and helped to reduce production costs relative to other meats. The price competitiveness of chicken meat compared with other meats, especially beef, continues to improve consolidating the position of poultry meat as the second most important meat after beef in Australian diets.

EXPORTS OF FRESH, CHILLED OR FROZEN MEAT

Year	Beef	Veal	Mutton	Lamb	Pork	Poultry
QUANTITY (a) ('000 tonnes)						
1974-75	601.0	10.2	120.7	24.6	1.1	5.1
1975-76	783.4	16.8	201.5	28.9	5.2	5.0
1976-77	919.7	17.1	241.5	59.8	3.1	4.7
1977-78	1,095.5	19.8	199.0	57.0	1.3	5.6
1978-79	1,193.7	23.0	169.2	46.5	1.9	6.7
1979-80p	854.2	17.4	197.8	49.6	1.9	7.3
VALUE f.o.b. (\$ million)						
1974-75	315.8	6.4	48.9	15.5	1.6	4.3
1975-76	475.3	11.5	81.2	20.3	7.6	4.3
1976-77	603.7	14.5	121.3	46.3	4.6	5.6
1977-78	807.8	18.1	123.9	57.2	2.2	6.6
1978-79	1,341.1	27.1	125.2	52.0	3.7	8.0
1979-80p	1,269.5	31.9	172.7	62.4	3.7	10.6

(a) Quantity data on beef, veal, mutton and lamb exports are shown in carcass weight equivalents.

Exports of live animals

During the 1970s exports of live sheep to the Middle East for slaughter have substantially increased from 800,000 in 1971-72 to 5.6 million in 1979-80. Over the last five years a substantial trade in cattle for slaughter has developed, primarily with Asian countries and exports of breeding cattle especially have picked up in the past two years. During 1979-80 some 63,000 head of cattle were exported for either breeding or slaughter purposes.

For details of the regulation governing the export (and import) of live animals see Year Book No. 61 page 848.

EXPORTS OF LIVE ANIMALS

Year	Livestock			Poultry		
	Sheep and Lambs	Total(a)		Day old chicks	Total	
		Number	Value f.o.b.		Number	Value f.o.b.
		—'000—	\$'000		—'000—	\$'000
1974-75	1,449	1,461	22,931	204	253	166
1975-76	1,845	1,869	23,231	256	284	242
1976-77	3,388	3,431	57,109	279	329	205
1977-78	4,124	4,188	98,069	503	584	387
1978-79	3,865	3,955	110,611	448	624	626
1979-80p	6,162	6,225	195,577	409	711	747

(a) Also includes cattle, calves, buffaloes and pigs.

PRODUCTION AND EXPORT OF BACON, HAM AND CANNED MEAT

Year	Production			Exports			
	Bacon and ham(a)		Canned meat(b)	Bacon and ham(c)		Canned meat(d)	
	Bone-in	Bone-out		Quantity	Value	Quantity	Value
	tonnes	tonnes	tonnes	tonnes	\$'000	tonnes	\$'000
1974-75	17,638	36,850	42,422	438	695	15,226	18,221
1975-76	16,042	38,218	45,193	386	761	20,605	24,541
1976-77	15,848	43,432	52,677	489	1,127	30,294	36,393
1977-78	15,746	49,030	49,347	539	1,479	24,643	35,660
1978-79	19,751	51,863	44,775	564	1,730	25,205	52,330
1979-80p	18,455	52,520	38,836	861	2,734	21,185	51,327

(a) Production of bacon and ham 'on the bone' is shown in terms of 'bone-in' weight, while production of boneless bacon and ham is shown in terms of 'bone-out' weight. Production of canned bacon and ham, which is reported in terms of 'stated net weight of packs', is included in the 'bone-out' category. (b) Canned weight. Includes bacon, ham and meat and vegetables, but excludes rabbit, poultry and baby foods. (c) Cured carcass weight of smoked or cooked bacon and ham. Includes 'stated net weight of packs' of canned bacon and ham. (d) Canned weight; excludes canned bacon and ham.

GROSS VALUE OF LIVESTOCK SLAUGHTERINGS AND OTHER DISPOSALS(a)
(\$ million)

Year	Cattle and calves	Sheep and lambs	Pigs	Poultry	Total
1974-75	523.4	178.3	177.7	139.8	1,019.2
1975-76	706.3	203.9	183.3	152.9	1,246.4
1976-77	1,010.8	299.0	197.4	178.4	1,685.7
1977-78	1,176.9	357.0	212.7	220.0	1,966.5
1978-79	2,154.6	429.0	253.8	244.2	3,081.6
1979-80p	2,300.2	613.8	309.6	299.2	3,522.9

(a) Includes adjustment for net exports (overseas and interstate) of live animals.

Consumption

Owing to diverse cutting practices by butchers and because of the difficulty of clearly defining the term 'retail weight of meat', it is considered impractical to derive a satisfactory factor for the purpose of expressing estimated meat consumption in terms of retail weight. Depending on cutting practices employed and whether or not bones, etc. sold to customers are included in retail weight of meat, the following retail weights as a proportion of carcass weight are generally acceptable: beef, 60 per cent to 75 per cent; mutton and lamb, 80 per cent to 95 per cent; pork 90 per cent to 95 per cent.

APPARENT CONSUMPTION OF MEAT AND MEAT PRODUCTS AS HUMAN FOOD

Year	Beef and veal	Mutton	Lamb	Pigmeat(a)	Bacon and ham	Canned meat	Poultry meat
TOTAL ('000 tonnes)							
1974-75	881	123	243	70	67	31	187
1975-76	936	98	231	61	72	23	201
1976-77	976	66	188	61	78	24	222
1977-78	964	53	195	65	86	24	239
1978-79	795	66	202	53	95	21	271
1979-80p	662	57	222	67	n.y.a.	n.y.a.	293
PER CAPITA PER YEAR (kg)							
1974-75	64.3	9.0	17.7	5.1	4.9	2.3	13.6
1975-76	67.6	7.0	16.7	4.4	5.2	1.7	14.5
1976-77	69.7	4.7	13.4	4.4	5.6	1.7	15.8
1977-78	68.1	3.7	13.8	4.6	6.1	1.7	16.9
1978-79	55.5	4.6	14.1	3.7	6.6	1.4	18.9
1979-80p	45.6	3.9	15.3	4.6	n.y.a.	n.y.a.	20.2

(a) Comprises pork and includes smallgoods and estimates for trimmings from baconer carcasses.

NOTE: Beef, veal, mutton, lamb and pigmeat are expressed in terms of carcass weight, bacon and ham in cured carcass weight, canned meat in canned weight and poultry meat in dressed weight.

For further details on meat production and slaughtering see the following publications: *Meat, Australia* monthly (7204.0), quarterly (7205.0) and annual (7206.0), *Chicken Hatchings and Poultry Slaughtering, Australia* (7207.0), *Value of Agricultural Commodities Produced, Australia* (7503.0) and *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0).

The Australian Meat and Livestock Corporation

Legislation was enacted to establish the Australian Meat and Livestock Corporation from 1 December 1977. This Corporation, which regulates and promotes meat and livestock exports, replaced the Australian Meat Board.

Two groups—The Meat and Livestock Exporters and Abattoir Operators Consultative Group and the Livestock Producers Consultative Group—are responsible for nominating corporation members and will:

- advise the Corporation on important matters such as trade and market matters; and
- disseminate information on Corporation decisions and policies to people engaged in the meat and livestock industries.

In addition to the Consultative Groups, an Australian Meat Industry Conference has been established. It is representative of all parties with an interest in matters for which the Corporation is responsible and includes representatives of producers, exporters, meatworks, packers, processors, livestock agents, unions and consumers. The Conference, meeting annually, provides a forum in which organisations representing the diverse interests of the meat and livestock industries debate issues of concern to them.

The Corporation's main functions are to encourage, assist, promote and control the export of meat and livestock from Australia, and to promote the sale of meat in Australia. It has the authority, also, to perform a range of other functions aimed at improving the production of meat and livestock and for the general benefit of the meat and livestock industries.

Finance

A component of both the Livestock Slaughter Levy and Livestock Export Charge is used to finance the Corporation's activities.

Wool

The Australian Flock contains nearly 15 per cent of the world's total number of sheep, and produces nearly 30 per cent of the total annual production of wool. Approximately 75 per cent of Australian flock are of a single breed, the Merino, raised primarily for their heavy fleeces of fine quality wool.

Wool production

Wool as shorn from the sheep contains an appreciable amount of grease, dirt and other extraneous matter, and is termed 'greasy wool'. The quantity of grease and other matter in a fleece differs not only between countries, but between districts in the same country. It fluctuates with the vagaries of the season, and with the breed and the condition of the sheep. To allow for this factor, the weight of greasy wool is sometimes given on a 'clean' basis, i.e. minus the estimated amount of impurities. The net wool fibre content of greasy wool, expressed as a percentage, is termed 'clean yield'.

Since the 1946-47 season, the average clean yield of Australian wool has been assessed annually. This work was initiated by the former Australian Wool Realisation Commission and is carried on by the Australian Wool Corporation. In the early years, the average clean yield was assessed on the basis of a small number of tests and subjective appraisal while in later years an increasing proportion of the Australian wool clip was subjected to laboratory tests. During the period of assessment the clean yield showed a continuous rise up to 1951-52, when it reached 57.5 per cent. It was 63.39 per cent in 1978-79.

Wool scoured and carbonised in Australia before export, however, has a somewhat lower clean yield than the whole clip, because much of greasy wool treated locally for export in this form is dirty low-grade wool. The quantity of scoured and carbonised wool exported during 1979-80 was about 13 per cent of total raw wool exports in terms of greasy. For the clean yield of Australian scoured wools exported a standard factor of 93 per cent has been adopted.

The following table shows details of total wool (i.e. shorn, dead, fellmongered, and exported on skins) as well as the numbers of animals shorn, the average fleece weight and the gross value of the wool. A graph showing the production of wool in relation to the number of sheep appears on Plate 37, page 325.

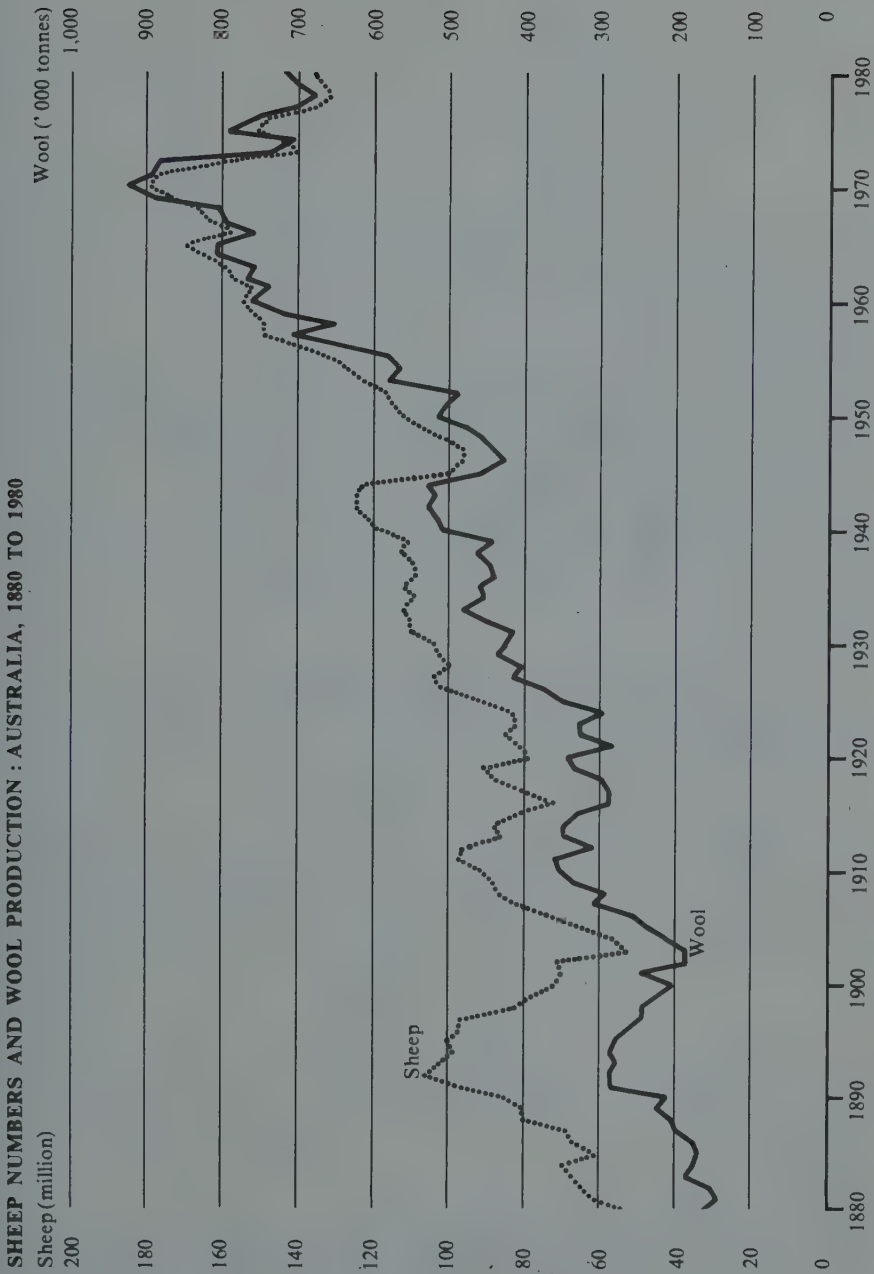


PLATE 37

SHEARING, WOOL PRODUCTION AND VALUE

Year	Wool production					Gross value (b)
	Sheep and lambs shorn	Average fleece weight	Shorn wool	Other wool(a)	Total wool	
					Quantity	
	million	kg	'000 tonnes	'000 tonnes	'000 tonnes	\$m
1974-75	161.9	4.48	725.3	68.2	793.5	953
1975-76	159.6	4.27	681.4	72.8	754.3	1,000
1976-77	145.8	4.28	623.9	78.8	702.7	1,173
1977-78	143.5	4.22	605.5	71.6	677.0	1,206
1978-79	146.9	4.38	643.6	62.1	705.7	1,375
1979-80p	150.3	4.32	648.9	71.1	720.0	1,647

(a) Comprises dead and fellmongered wool, and wool exported on skins. (b) Gross value is based, for shorn wool, upon the average price realised for greasy wool sold at auction and, for skin wools, on prices recorded by fellmongers and skin exporters.

The wool market

The two principal methods used by woolgrowers in selling their wool are by private treaty or through public auction. In the case of auction, the wool is consigned to selling brokers who arrange for it to be stored, displayed for valuation and then offered for sale by auction. Though there has been a decline in the portion of the national clip passing through auction sales in recent years it remains the principal method of sales. Seventeen 'pastoral houses' plus a number of other independent companies operate as wool selling brokers and handle three quarters of the Australian wool clip.

Private sales account for the remainder, where the transaction price is agreed between buyer and seller and the sale concluded without the presence of other parties. These sales are often transacted on the farm. This method of sale has its greatest support in Western Australia (35 per cent of the State clip), with New South Wales (26 per cent) and Victoria (24 per cent) also strong supporters of this type of sale.

Wool receivals

Under the terms of the Wool Tax Act, all growers pay a tax on the gross value of first hand wool sales, to provide financial backing for wool promotion, research and the operation of a statutory reserve price scheme. The ABS collects details of the total amounts of taxable wool received by wool selling brokers and dealers each year. These figures exclude wool received by brokers on which tax had already been paid by other dealers (private buyers) or brokers.

TAXABLE WOOL RECEIVALS

Year	Receivals			Dealers as per cent of total receivals	Shorn wool production(b)
	Brokers (NCWSB)	Dealers(a)	Brokers and dealers		
	— '000 tonnes —			per cent	'000 tonnes
1974-75	593.9	135.3	729.2	18.5	725.3
1975-76	525.2	161.6	686.9	23.5	681.4
1976-77	476.3	151.5	627.8	24.1	623.9
1977-78	459.7	155.2	614.9	25.2	605.5
1978-79	481.4	164.8	646.2	25.5	643.6
1979-80p	483.0	167.3	650.3	25.7	648.9

(a) Includes brokers who are not members of the National Council of Wool Selling Brokers of Australia (NCWSB). (b) Obtained from the annual Agricultural Census.

Wool marketing arrangements

The Australian Wool Corporation (AWC), established on 1 January 1973 through the amalgamation of the former Australian Wool Commission and Australian Wool Board, performs a number of functions within the market aimed at encouraging the demand for Australian wool and assisting the efficient and orderly disposal of the national clip. Central to these activities is a reserve price scheme, operated by the Corporation on behalf of the woolgrowing industry and with the support of the Commonwealth Government. This scheme introduced by the Wool Commission in November 1970 mainly to provide a measure of protection to woolgrowers against unduly low prices resulting from temporary variations of demand at auctions only applies for wool sold at approved public auctions.

The reserve price scheme has two component parts, a fixed and published 'floor' price for each wool type, and a flexible or floating reserve which is not disclosed.

Initially, the reserve price scheme was operated on a flexible basis whereby the Commission, and later the Corporation, bought wool which failed to reach a reserve price determined on a day-to-day basis. Since September 1974, as part of the reserve price program, the Corporation has been authorised to operate a floor price scheme. Under the floor price arrangements the Government sets a minimum average price for wool at the beginning of each season. The Corporation, which sets minimum prices for each wool type based on the Government's indicator floor price, purchases wool at auction which does not attract bids above the level of the appropriate floor price for that type. Above the level of the floor price the Corporation continues to operate a flexible reserve price scheme to prevent 'pot-holes' in the market. The wool purchased by the Corporation is held in stock, some of it in Australia and some overseas, and sold when prices improve with a view to stabilising the market.

In order to finance losses arising from the Corporation's reserve price activities woolgrowers, since September 1974, have been paying 5 per cent of gross proceeds from the sale of wool into a special fund called the Market Support Fund. To date annual amendments to the wool industry legislation have been necessary to continue arrangements for collection of the 5 per cent levy. In May 1980 amending legislation placed these arrangements on a continuing basis. The new legislation also provided for repayments of grower contributions to the Market Support Fund on a 'first-in-first-out' basis once the Fund has accumulated a sound level of reserves. At the same time formal recognition was given in the legislation to the recently formed Wool Council of Australia as the organisation representing Australian woolgrowers.

The Australian Wool Corporation has other responsibilities which include the provision of a service for the testing of wool, participation in negotiations in respect of freight rates, administration of wool stores and the encouragement of greater efficiency within the existing wool marketing system. Wool testing services are provided through the Australian Wool Testing Authority. While the Authority has been in existence since 1957, its role has become more prominent since the introduction in 1971 of the technique whereby wool is sold by sample with objective measurements of important value—determining characteristics such as mean fibre diameter, clean yield and vegetable matter content. In 1979–80 over 90 per cent of wool sold at auction was sold in this way.

As a means of further demonstrating increased efficiency and cost savings that can be achieved in wool marketing procedures the AWC was authorised by the Government to operate a Wool Marketing Service (WMS) following the termination of the Limited Offer to Purchase Scheme (LOPS) on 30 June 1980. The WMS has the general aim of developing and demonstrating wool handling and selling economies. It retains the central features of the LOP Scheme with direct purchases from woolgrowers limited to 150,000 bales throughput of wool per year and is funded and operated on a commercial basis.

Wool promotion

The Australian Wool Corporation is responsible for the promotion of the greater use of wool both in Australia and overseas. The cost of promotion is shared by the Government and the woolgrowing industry. The woolgrowers' contribution for promotion is raised by means of a tax on wool sale proceeds which is currently at the rate of 2.5 per cent (part of a total 3 per cent levy used to finance both wool research and promotion) while the level of Government contribution is reviewed and determined annually. Most of the promotion funds are remitted to the International Wool Secretariat (IWS) with headquarters in London. Australia provides approximately two thirds of the IWS budget.

Wool research

The wool research program covers five broad areas; research into wool production, wool harvesting and distribution, and economic and textile research. Wool research activities funded from the Wool Research Trust Fund (WRTF) are financed by growers and the Government on a 50:50 basis with the grower's contribution raised by means of a 0.5 per cent levy on wool sale proceeds (part of the total 3 per cent levy mentioned above). In addition to the wool research which is funded in this manner the CSIRO and the Bureau of Agricultural Economics carry out considerable additional wool research which is funded by Consolidated Revenue.

Wool income

Fluctuations in wool prices have a marked effect on agricultural and national income. In 1945–46 the gross value of wool production was \$117.2 million, representing 17.4 per cent of the gross value of all agricultural commodities produced, while in 1950–51, when prices reached a peak during the Korean War, wool was valued at \$1,303.8 million, or 55.6 per cent of total agricultural industries. More recent figures for the contribution of wool income to total agricultural production and national exports reflect the growth in other commodities over the intervening years, rather than a decline in the fortunes of the wool industry.

<i>Year</i>	<i>Value of wool as a per cent of total agriculture</i>	<i>Value of wool exports as a per cent of total Australian exports</i>
1974-75	16.2	9.3
1975-76	16.2	11.0
1976-77	17.4	14.0
1977-78	17.3	10.8
1978-79	13.4	11.2
1979-80p	14.7	9.2

Stocks

Stocks shown below of raw and semi-processed wool were held by wool processors, scourers, fell-mongers, brokers, dealers and the Australian Wool Corporation. They exclude wool on skins since this wool is not recorded as production until fellmongered in Australia or exported on skins.

WOOL STOCKS (^{'000 tonnes})

<i>At 30 June</i>	<i>Stocks of—</i>					
	<i>Raw Wool(a)</i>		<i>Semi-processed wool</i>		<i>Total wool</i>	
	<i>Greasy</i>	<i>Clean</i>	<i>Greasy</i>	<i>Clean</i>	<i>Greasy</i>	<i>Clean</i>
1974	181.8	104.3	10.5	6.1	192.4	110.4
1975	450.2	268.8	7.5	4.5	457.7	273.2
1976	372.9	223.2	9.5	5.7	382.4	228.9
1977	265.6	156.3	8.6	5.1	274.2	161.4
1978	225.8	134.4	8.7	5.2	234.5	139.6
1979	162.0	101.2	7.9	5.0	169.9	106.2

(a) Includes from about 1971 or 1972 varying amounts of stock held overseas by the Australian Wool Corporation: 1974, 5,600 tonnes greasy; 1975, 34,200 tonnes greasy; 1976, 35,600 tonnes greasy; 1977, 46,900 tonnes greasy; 1978, 46,600 tonnes greasy; 1979, 31,400 tonnes greasy.

Wool consumption

Two series of calculations on Australian wool consumption are shown below.

1. Consumption of raw wool, which measures consumption in terms of scoured wool used by mills.
2. Consumption of processed wool, which is calculated from the usage of woollen and worsted yarn.

Raw wool comprises greasy, slipe, scoured and carbonised wool. This series has been included for comparison purposes with other countries.

This second series is considered to be a more satisfactory measure of Australian wool consumption, principally because allowance is made for significant quantities of wool tops exported. However, both series relate to consumption of wool by the wool textile industry, and should not be used as measures of consumption of wool at retail level. It has not been possible to estimate wool consumption at retail level because of the impracticability of obtaining reliable data concerning the wool content of the multiplicity of woollen and worsted piece-goods and finished articles exported and imported and held as stock by manufacturers, wholesalers and retailers.

CONSUMPTION OF RAW AND PROCESSED WOOL (^{'000 tonnes})

<i>Year</i>	<i>Consumption of raw wool</i>		<i>Consumption of processed wool</i>					
	<i>Greasy</i>	<i>Clean</i>	<i>Worsted yarn used (a)</i>		<i>Woollen yarn used (b)</i>		<i>Total</i>	
			<i>Greasy</i>	<i>Clean</i>	<i>Greasy</i>	<i>Clean</i>	<i>Greasy</i>	<i>Clean</i>
1973-74	45.7	26.0	16.5	9.3	17.5	10.3	35.1	20.1
1974-75	31.3	18.2	10.9	6.2	14.3	8.6	26.3	15.4
1975-76	48.7	26.9	14.3	7.8	17.3	9.9	32.7	18.2
1976-77	49.1	27.0	12.6	6.8	15.0	8.5	28.7	15.9
1977-78	46.4	27.6	11.9	6.9	14.2	8.8	27.3	16.3
1978-79p	51.0	30.0	11.9	6.8	14.7	9.0	27.7	16.4

(a) Wool content of yarns containing a mixture of wool and other fibres.

(b) Comprises pure and mixed woollen yarn.

Exports of wool

From its earliest days the Australian wool industry has been export oriented, and today approximately 95 per cent of total annual production of wool is exported.

The great bulk of this leaves the country in its natural 'greasy' state, but significant quantities are also exported as fellmongered (i.e. wool removed from skins after slaughter), on sheepskins, and in part processed forms (i.e. scoured, carbonised, top and noil).

Figures for 1979-80 show that 505,337 tonnes of greasy and slipe wool was exported from Australia, with principal markets being Japan (122,259 tonnes or 24.2 per cent of total exports), Western Europe (170,431 tonnes or 33.7 per cent), Eastern Europe (128,119 tonnes or 25.4 per cent) and the Asian countries of India, China, Republic of Korea and Taiwan Province (60,550 tonnes or 12 per cent).

EXPORTS OF WOOL

Year	Selected exports ('000 tonnes: greasy basis)			Total exports	
	Greasy and slipe	Scoured and carbonised	Exported on skins	Greasy basis (a)	Value f.o.b.
				'000 tonnes	\$m
1974-75	456.9	58.0	61.4	585.6	786
1975-76	583.5	67.9	65.5	731.1	1,032
1976-77	675.6	81.5	70.9	849.1	1,587
1977-78	493.6	69.5	64.5	645.9	1,289
1978-79	566.6	83.5	56.0	726.1	1,593
1979-80p	505.3	86.4	64.0	679.1	1,743

(a) Includes processed wool.

For further details on sheep shorn, wool production and overseas trade see the following publications: *Livestock, Australia* (7203.0), *Sheep Numbers, Shearing and Wool Production Forecast, Australia* (7211.0), *Wool Production and Shearing, Australia* (7210.0), *Wool, Australia* (7212.0), *Brokers and Dealers Receipts of Taxable Wool, Australia* (monthly) (7213.0), *Overseas Trade, Australia* (5409.0, 5410.0), *Production Bulletin No. 4: Australia* (8360.0) and *Value of Agricultural Commodities Production, Australia* (7503.0).

Dairying

Dairying in Australia occurs mainly in the south-eastern region of the mainland, and in Tasmania, where rainfall is ample and fairly reliable. It is predominantly coastal, but has also developed inland in small areas close to population centres and, on a larger scale, in some irrigated regions in the Riverina of New South Wales and northern Victoria.

Australian dairy cattle have shown steady improvement in quality, as demonstrated by milk yield, over the years. This is attributable to improved breeding associated with herd recording; the use of artificial insemination; better feeding resulting from the use of improved pastures; and better farming methods arising from the application of new management practices and the use of the latest technology; and a contraction of the industry to climatically more favourable areas. Typical of the developments which have occurred are the almost total change from on-farm separation and delivery of cream to the collection of whole milk by milk tankers from on-farm refrigerated milk vats and the introduction of Herringbone and Rotary type dairies on farms.

The manufacturing and processing sections of the industry are well advanced technologically and certain techniques and equipment developed in Australia are being used overseas. State Agricultural Departments give advice on approved methods of production and inspect animals, buildings and marketable produce, to ensure that the latest advances in technology are passed on to the farmer and that hygiene standards are maintained at a high level.

MILK CATTLE NUMBERS
(^{'000})

31 March	<i>Cows and heifers used or intended for production of milk or cream for sale</i>				
	<i>Bulls used or intended for service</i>	<i>Cows (in milk and dry)</i>	<i>Heifers</i>		<i>House cows and heifers(a)</i>
			<i>1 year and over</i>	<i>Under 1 year</i>	
1975	78	2,355	634	537	122
1976	73	2,345	595	467	122
1977	65	2,174	537	385	105
1978	60	2,056	480	367	99
1979	55	1,921	442	369	78
1980p	56	1,869	431	396	77

(a) One year and over, kept for the rural establishment's own milk supply.

The economic position of the industry

During much of the 1970's the Australian dairy industry faced reducing demand and low export prices for dairy products. Major producing and consuming countries such as the EEC and U.S.A. adopted production policies, coupled with protection of their domestic markets, which resulted in world production of most dairy products in excess of market opportunities.

Considerable contraction and rationalisation of production has occurred in Australia in response to a changed economic and trading environment.

Improved domestic and export prices have combined with reduced production to significantly improve producers' returns in 1979-80 and the outlook for 1980-81.

Government assistance

The downturn in the Australian dairy industry, resulting largely from the low international prices for dairy products, led in 1976-77 to the introduction of a Government scheme to underwrite minimum prices for the major dairy products. Since that time underwritten minimum prices have been set each year. For the 1980-81 season, the manufacture of prescribed dairy products—butter, skim milk powder, casein, cheese and whole milk power—was underwritten at \$2.10 per kilogram butterfat in milk.

The voluntary equalisation arrangements which had operated in the dairy industry since 1923 were considered to be in danger of collapse because of seriously depressed export returns and the phasing out of a production bounty which had applied for butter and cheese.

Legislative backing for a levy/disbursement scheme has become the basis for stabilised marketing arrangements. It is aimed at protecting the domestic price structure for prescribed dairy products from disruptive price competition and providing each manufacturer with an equalised return for their domestic and export sales of such products.

PRODUCTION, UTILISATION AND GROSS VALUE OF WHOLE MILK

Year	Whole milk used for—				Total whole milk
	Factory butter	Non-processed cheese	Processed milk products(a)	Other purposes(b)	
QUANTITY (million litres)					
1974-75	3,345	936	627	1,589	6,497
1975-76	3,026	1,057	631	1,534	6,248
1976-77	2,447	991	734	1,601	5,773
1977-78	1,963	986	929	1,612	5,490
1978-79	1,830	1,198	1,022	1,625	5,676
1979-80p	1,533	1,289	979	1,665	5,465
GROSS VALUE (\$ million)					
1974-75	191.1	61.6	39.0	217.7	(c) 518.5
1975-76	151.6	57.1	34.1	238.2	(c) 490.3
1976-77	128.1	54.3	38.8	275.2	(c) 520.9
1977-78	120.7	62.7	49.3	290.2	(c) 548.9
1978-79	133.4	95.8	68.2	334.2	631.5
1979-80p	116.6	107.2	67.3	341.6	632.8

(a) Quantities of milk used to produce two or more products (e.g., initially as full cream milk and subsequently as skim milk) are counted once only. (b) Principally fluid milk for domestic purposes. (c) Includes data not available for publication in the components.

Domestic market

In recent years there has been a marked swing from the production of butter and its by-products, skim milk powder and casein, to cheese and whole milk powder. This has been accompanied by an increased percentage of total milk production going to the fluid milk market and being used in the manufacture of wet products such as yoghurt and table cream.

The combination of reduced total milk production in Australia and the growth in population has increased the importance of the domestic market and reduced the milk equivalent of exports. Increased emphasis is being placed by manufacturers on meeting the requirements of the domestic market. Attempts are being made to supply the consumer with a more readily usable product. Recent developments include the introduction of ultra high temperature (UHT) treated milk products and test marketing of butter-vegetable oil blends.

Except for cheese, the domestic market is virtually supplied from Australian produced dairy products. Cheese imports, particularly from New Zealand, have increased significantly in recent years. The Industries Assistance Commission conducted an inquiry into the cheese industry during 1978 and 1979 and reported that New Zealand imports had the potential to undermine domestic marketing arrangements. Recently, an understanding was reached between the Australian and New Zealand dairy industries under which the New Zealand Dairy Board has agreed to exercise a reasonable restraint policy with respect to cheese exports to Australia.

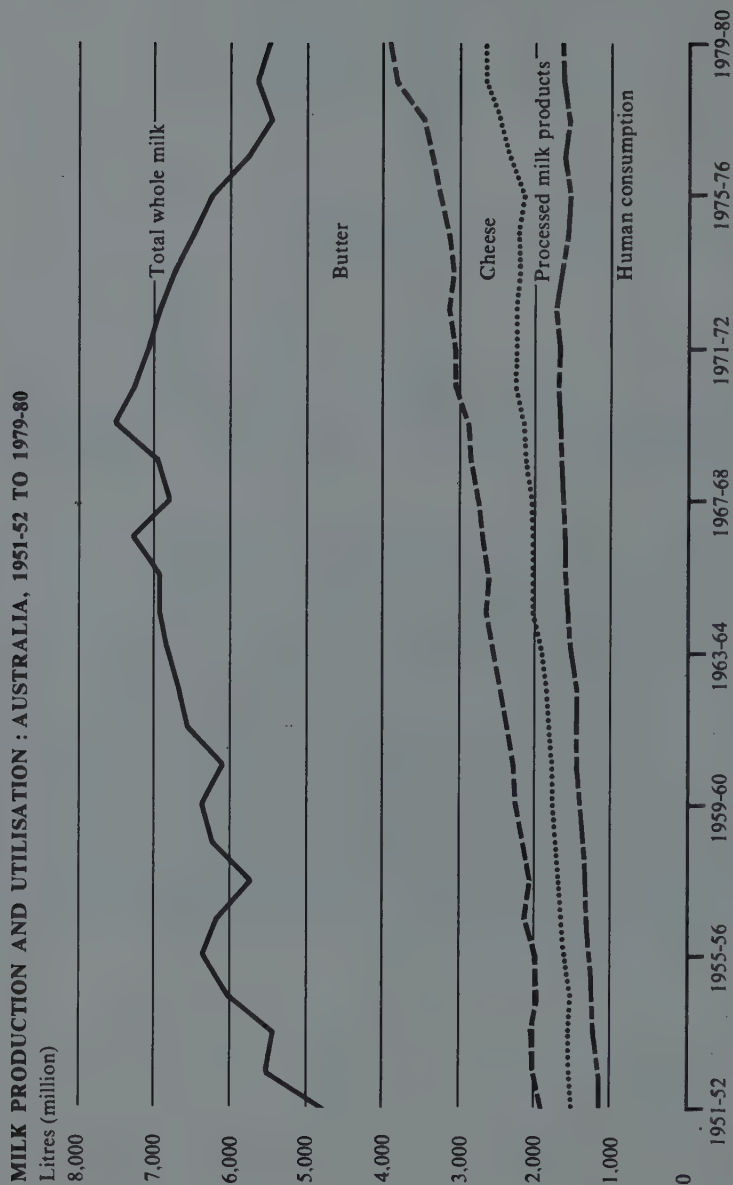


PLATE 38

Exports

Australia's export trade in dairy products has undergone a considerable change in recent years both in terms of the volume and type of product traded and the direction of trade.

Declining milk production in Australia has reduced the overall availability of dairy products for export. In particular the decline in the production of butter and skim milk powder has led to a decline in exports of those products. On the other hand production and exports of cheese and whole milk powder have increased.

Britain was Australia's major outlet for dairy products until she joined the EEC. From 1973 until the beginning of 1980 Australia did not sell any dairy products to Britain or the EEC. From 1 January 1980, however, Australia has been granted access to the EEC for 3000 tonnes of cheese per annum in return for certain concessions on EEC cheese imports into Australia.

Japan and the Middle East are currently the principal market outlets for Australia's dairy products.

PRODUCTION AND TRADE OF BUTTER AND CHEESE

Year	Butter			Cheese			
	Factory production	Exports (a)		Factory pro- duction(c)	Exports (b)		Imports
		Quantity	Value f.o.b.		Quantity	Value f.o.b.	
		'000 tonnes	'000 tonnes \$m		'000 tonnes	'000 tonnes \$m	
1974-75	161.3	18.9	19.5	98.6	34.2	34.6	8.0
1975-76	147.6	52.5	42.2	112.6	31.5	35.2	9.7
1976-77	118.2	22.6	26.0	103.5	52.5	56.2	10.6
1977-78	111.7	17.5	22.7	115.7	47.0	55.6	11.3
1978-79	104.8	28.2	37.8	141.8	51.4	69.0	12.1
1979-80p	84.3	17.9	28.7	151.2	61.1	94.4	11.9

(a) Excludes ghee and butter concentrates.
processed cheese.

(b) Includes processed cheese exports.

(c) Factory production is shown only for non-

Apparent consumption

CONSUMPTION OF MILK, BUTTER, CHEESE AND MARGARINE

Year	Apparent consumption Total			Apparent consumption Per capita per year				
	Fluid whole milk	Butter	Cheese	Fluid whole milk	Butter	Cheese	Margarine	
							Table	Other
							kg	kg
1974-75	mil. litres	'000 tonnes	'000 tonnes	litres	kg	kg	kg	kg
1975-76	1,460	98	71	106.6	7.2	5.2	2.2	3.8
1976-77	1,401	93	79	101.1	6.8	5.7	3.1	3.9
1977-78	1,467	81	74	104.8	5.8	5.3	4.7	3.5
1978-79	1,450	71	86	102.4	5.0	6.0	5.7	2.9
1979-80p	1,497	61	94	104.5	4.2	6.5	5.9	2.9
	1,520	60	98	104.7	3.8	6.8	n.y.a.	n.y.a.

Wholesale prices of butter and cheese in Australia

Following the inception of the prescribed products levy arrangements under the Dairy Industry Stabilization Act 1977 and associated Acts, the Prices Justification Tribunal (PJT) has adopted the practice of exempting manufacturers of prescribed products from notification of increases in the domestic bulk wholesale prices upon the Australian Dairy Corporation advising the Tribunal of the Minister for Primary Industry's approval of upward variations in assessed export prices and product levies.

For further details on the dairying industry see the publications, *Dairying and Dairy Products, Australia* (7209.0), *Milk, Australia* (monthly) (7208.0), *Production Bulletin No. 3: Food, Drink and Tobacco, Australia* (8359.0), and *Production of Non-Processed Cheese, Australia* (8307.0).

Beekeeping

Although practised as a separate industry, beekeeping is also carried on in conjunction with other branches of agriculture. A feature of the industry is that many apiarists operate on a large scale with mobile equipment. Some of these apiarists move as far afield as from Victoria to Queensland in an endeavour to provide a continuous supply of nectar from suitable flora.

NOTE: Statistics in the following table relate, for the years since 1974-75, to apiarists with forty or more hives. Information for 1973-74 covered the operations of apiarists with five or more hives (six or more in New South Wales).

BEEKEEPING STATISTICS

Year	Number of apiarists	Number of beehives		Honey produced		Beeswax produced	
		Productive	Total	Quantity	Average pro- duction per productive hive	Gross value	Quantity
		'000	'000	'000 tonnes	kg	\$'000	tonnes
1973-74(a)	5,779	409	544	21.2	51.8	11,768	324
1974-75	2,266	381	491	20.6	54.2	9,292	326
1975-76	2,285	377	497	21.4	56.8	10,453	368
1976-77	2,274	348	493	14.9	42.9	8,405	275
1977-78	2,151	363	479	18.6	51.2	13,480	329
1978-79	2,201	369	501	18.3	49.5	14,111	349

(a) See Note above.

EXPORTS OF HONEY AND BEESWAX

Year	Honey		Beeswax	
	Quantity	Value f.o.b.	Quantity	Value f.o.b.
	'000 tonnes	\$'000	tonnes	\$'000
1973-74	4.7	3,505	234	356
1974-75	9.6	5,783	243	459
1975-76	11.5	6,330	217	399
1976-77	6.6	4,602	255	694
1977-78	4.3	4,228	145	542
1978-79	7.4	6,164	194	743

Honey levy

Under the *Honey Levy Act* 1962, a levy is imposed on domestic sales of honey. The current rate of levy, which became effective on 1 December 1978, is 1.8 cents per kg; it can be increased by regulation to a maximum of 2.2 cents per kg.

In April 1974, an export charge was introduced under the *Honey Export Charge Act* 1973. The current rate of charge which became effective on 1 December 1978, is 0.5 cents per kg; it can be increased by regulation to a maximum of 1 cent per kg.

The domestic levy and export charge proceeds finance the export control and promotional activities of the Australian Honey Board.

For further information, see the publication *Beekeeping, Australia* (7214.0).

Eggs and egg products

EGGS AND EGG PRODUCTION: SUPPLY AND UTILISATION
(Eggs in shell weight)

Year	Production(a)			Processed food(b)	Apparent consumption in Australia as human food	
	Quantity	Gross value	Exports		Total	Per head per year
	'000 tonnes	\$ million	'000 tonnes	'000 tonnes	'000 tonnes	kg
1973-74	189.0	147.8	23.5	31.5	165.0	12.4
1974-75	197.7	171.7	21.8	38.4	170.4	12.4
1975-76	196.0	178.5	30.1	32.5	172.6	12.5
1976-77	192.7	182.2	21.8	28.3	173.5	12.4
1977-78	200.7	200.8	20.8	34.3	176.0	12.4
1978-79p	195.6	203.9	17.3	26.7	179.2	12.5

(a) Includes estimates for uncontrolled commercial production and production by self-suppliers.
powder; also includes wastage.

(b) Includes egg products as pulp and

Commercial egg production in Australia, by virtue of hen quota (licencing) legislation introduced by all States to more closely align production with domestic demand, is now trending to stabilise at economic levels. A noticeable effect of hen quotas has been overall improvement of production efficiency and increased capacity of the industry to sustain higher producer net returns as crippling production surpluses diminish.

Egg Consumption

In the absence of data for eggs produced in areas outside the control of the State Egg Boards and by hens kept in backyards throughout the country, egg consumption figures are uncertain. In 1979-80, all States recorded increased commercial sales indicative of an increase in consumption and thought to be at least partially influenced by higher red meat price levels.

Exports

Egg exports from Australia are predominantly in egg pulp form with Japan the principal market. World markets continue to be over supplied with eggs and all forms of egg products are subject to severe price competition virtually on a year round basis. High and increasing freight costs from Australia are a barrier to trade with the more distant markets such as the Arabian Gulf and Middle East and emphasise the importance of closer markets in the Asian and Pacific areas. Export availability has declined as the gap between domestic consumption and production has narrowed.

EXPORTS OF EGGS AND EGG PRODUCTS

Year	Eggs not in shell					
	Eggs in shell		Liquid form		Dry	
	Quantity	Value f.o.b.	Quantity	Value f.o.b.	Quantity	Value f.o.b.
	'000 doz	\$'000	tonnes	\$'000	tonnes	\$'000
1974-75	2,343	951	11,627	7,229	96	121
1975-76	2,684	1,033	15,858	9,412	58	96
1976-77	1,293	655	12,693	9,151	35	96
1977-78	1,249	655	9,739	10,272	56	158
1978-79	962	514	8,200	9,790	99	374
1979-80p	1,364	779	5,833	5,816	74	322

For further details on eggs and egg products see the publications *Chicken Hatchings and Poultry Slaughtering, Australia* (7207.0) and *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0).

Agricultural improvements

Fertilisers

The bulk of Australia's requirements of nitrogenous and phosphatic fertilisers is supplied by the domestic industry. Requirements of potassic fertilisers are primarily imported. Production of nitrogenous fertilisers is based on both Australian natural and refinery gas and imported naphtha feedstocks. Production of phosphatic fertilisers is currently dependent upon imported phosphate rock, but some limited development of domestic rock deposits is underway.

The chief sources of Australia's supplies of phosphate rock are Nauru and Christmas Island.

As a result of widespread phosphate and sulphur deficiency in Australian soils, phosphatic fertilisers particularly single superphosphate account for a large proportion of usage both on crops and pastures.

Sulphur for use in superphosphate manufacture is obtained mainly from Canada and Mexico.

Principal crops and pastures fertilised, etc.

Information regarding the principal crop and pasture areas treated with artificial fertilisers, and the quantity of artificial fertilisers (superphosphate, nitrates, etc.) used, is given in the following tables.

ARTIFICIAL FERTILISERS: AREA AND USAGE

<i>Year</i>	<i>Area fertilised</i>	<i>Super- phosphate used</i>	<i>Nitrogenous fertilisers used</i>	<i>Other fertilisers used</i>
	'000 ha	'000 tonnes	'000 tonnes	'000 tonnes
1973-74	29,529	4,110	340	360
1974-75	24,858	3,349	335	360
1975-76	18,975	2,216	353	296
1976-77	21,266	2,303	326	428
1977-78	24,324	2,538	490	383
1978-79	25,403	2,651	485	398

Since the Second World War there has been a great expansion of the area of sown pasture accompanied by an increased use of fertilisers. New pasture varieties (including tropical species) have been developed, and nutrient or trace element deficiencies in soils identified.

The main artificial fertiliser used in Australia is superphosphate, over half of which is used on pastures, mainly in areas with moderate to good rainfall. Large quantities are also used on cereal crops.

SUPERPHOSPHATE USAGE

<i>Selected crops and pastures</i>						
<i>Year</i>	<i>Sown and native pastures</i>	<i>Lucerne</i>	<i>Wheat</i>	<i>Other cereals</i>	<i>Sugar cane</i>	<i>Total</i>
AREA FERTILISED ('000 hectares)						
1973-74	17,994	495	7,147	3,258	236	29,529
1974-75	14,484	639	6,358	2,678	248	24,858
1975-76	8,568	346	6,276	3,092	267	18,975
1976-77	10,006	447	6,745	3,366	285	21,266
1977-78	11,324	469	7,827	3,960	289	24,324
1978-79	12,079	379	8,004	4,220	266	25,403
SUPERPHOSPHATE USED ('000 tonnes)						
1973-74	2,709	89	804	402	21	4,110
1974-75	2,070	112	719	326	21	3,349
1975-76	1,027	53	665	354	26	2,216
1976-77	1,166	63	615	351	27	2,303
1977-78	1,335	67	635	392	25	2,538
1978-79	1,451	55	634	409	22	2,651

PRODUCTION AND IMPORTS OF FERTILISERS

Item		1974-75	1975-76	1976-77	1977-78	1978-79	1979-80 ^p
PRODUCTION							
Superphosphate (a)	'000 tonnes	3,309	2,185	3,137	3,388	3,646	4,179
Mixed chemical fertilisers (including complete manures)	'000 tonnes	1,049	708	870	828	n.y.a.	n.y.a.
Leaf and foliage type fertilisers (including dry and liquid form)	tonnes	368	1,129	n.p.	n.p.	n.y.a.	n.y.a.
Manures (without added chemical fertilisers) (b)	tonnes	9,554	20,344	17,132	11,472	n.y.a.	n.y.a.
IMPORTS							
Crude fertilisers (mainly natural phosphate)	'000 tonnes	2,651	1,464	1,330	1,612	2,381	2,181
	Value \$m	74.6	18.4	42.5	55.6	83.4	80.4
Manufactured, mineral or chemical fertilisers—							
Nitrogenous (c)	'000 tonnes	12	6	22	23	29	75
	Value \$m	2.5	0.7	2.6	2.6	4.2	9.4
Potassic (d)	'000 tonnes	211	110	165	162	174	215
	Value \$m	9.5	7.3	9.6	9.1	9.9	15.5
Other (e)	'000 tonnes	5	18	71	35	72	81
	Value \$m	1.1	1.3	8.9	5.1	10.3	7.2

(a) Includes double and triple superphosphate and ammonium phosphate in terms of single superphosphate. (b) Blood, bone and/or offal, and other material. (c) Mainly ammonium nitrate, ammonium sulphate, calcium ammonium nitrate, sodium nitrate and urea containing in the dry state more than 45 per cent by weight of nitrogen. (d) Mainly potassium chloride and potassium sulphate. (e) Includes phosphatic fertilisers and compounds of the main elements nitrogen, phosphorus and potassium (N.P.K. complete fertilisers).

Note: Production data are derived from the Annual Manufacturing Census and the recorded monthly production.

Aerial agriculture

Extensive use is made of aircraft for top-dressing and seeding, for spraying and dusting of crops and pastures and for pest and vermin extermination. The statistics below have been compiled from returns collected from the operators of aircraft engaged in aerial agriculture. The collection was commenced in 1956 by the then Department of Civil Aviation and is now the responsibility of the Department of Transport.

AERIAL AGRICULTURE

Year ended 31 March	Area treated ('000 hectares)			Materials used ('000 tonnes)		Productive hours flown ('000 hours)
	Top dressed and seeded	Sprayed	Total(a)	Super-phosphate	Seed	
1975	3,378	1,544	5,080	473.8	4.8	89.2
1976	1,164	2,059	3,314	105.2	3.5	53.8
1977	1,381	1,624	3,064	151.5	2.5	49.6
1978	2,403	1,782	4,260	287.2	3.8	69.5
1979	3,212	2,955	6,223	374.5	5.9	101.2
1980	4,195	2,381	6,654	487.6	6.4	123.8

(a) Includes other types of treatment (rabbit baiting, etc.).

Irrigation on agricultural establishments

Irrigation is one of the factors by which agriculture is further developed. The variability in stream flow and annual rainfall means that successful irrigation of crops and pastures is dependent on storage. Ground water supplies are also used in areas where the quantity is adequate and the quality is suitable. The area of land irrigated (approximately 1.4 million hectares in 1978-79) forms about 10 per cent of the total area under crops and only 0.3 per cent of the total area of agricultural establishments.

Most irrigation areas in Australia are supplied with water by a State authority, although there are also private schemes operating. The major reasons for expansion of the area irrigated have been public investment in the building of dams and reservoirs and private investment by farmers in irrigation plant and earthworks. Irrigation statistics are collected irregularly. Chapter 15, Water Resources, contains details of water conservation and irrigation with international, national and interstate aspects.

Agricultural machinery on agricultural establishments

Statistics on the type of agricultural machinery on agricultural establishments were published in early issues of the Year Book. Additional information was published in the publication *Rural Land Use, Improvements, Agricultural Machinery and Labour, Australia, 1974-75* (7103.0). Details of the sales of new tractors for agricultural purposes are given in the quarterly publication *Sales and Stocks of New Tractors, Australia* (8507.0).

Employment in Agriculture

Employment on agricultural establishments

Prior to 1976 data on employment collected at the annual Agricultural Census differentiated between permanent full-time employees and temporary employees. Full-time workers excluded casual or seasonal workers and other persons working only part-time. Casual or seasonal workers were shown as temporary employees.

In the past it has been difficult to maintain comparability of employment on agricultural establishments from year to year because of the changing number of lessees and share farmers and because of the tendency of many farmers to include part-time family helpers as full-time workers in their returns. Since the Second World War there has been a decline in the percentage of people living in rural areas due, in part, to a rising standard of living accompanying the introduction of new techniques and increasing use of capital equipment, fuel, fertilisers, and pesticides. As a result, a smaller agricultural labour force is now producing a larger output of farm products.

AGRICULTURAL EMPLOYMENT (a)

(Source: Annual Agricultural Census)

Males, permanent ('000)						Persons working more than 15 hours a week ('000)		
31 March	Owners, lessees or share farmers	Relatives, etc.	Employees (b)	Total		Males	Females	Persons
1972	194.9	8.8	65.3	269.0		n.a.	n.a.	n.a.
1973	189.3	7.8	62.6	259.6		n.a.	n.a.	n.a.
1974	185.9	7.3	62.2	255.4		n.a.	n.a.	n.a.
1975	181.6	7.0	55.0	243.6		n.a.	n.a.	n.a.
1976	n.a.	n.a.	n.a.	n.a.		256.0	80.3	336.3

(a) Employment statistics have not been collected since 1975-76.

EMPLOYED PERSONS IN AGRICULTURE AND SERVICES TO AGRICULTURE

Month of August	Males	Married women	All females	Persons
1975	303.8	62.0	76.5	380.3
1976	287.6	71.0	82.9	370.5
1977	294.2	73.6	89.1	383.3
1978	274.9	63.7	78.1	353.0
1979	295.4	69.1	80.3	375.7
1980	285.9	77.1	92.4	378.3

Source: Monthly population survey conducted by the ABS throughout Australia. For further details see *The Labour Force, Australia* (6203.0).

Regulation of Australian agricultural industries

Year Book No. 61, pages 837-57, contains a summary of the means by which agricultural industries are assisted and regulated. It is not intended as a comprehensive statement of all the consultative and legislative assistance and control measures that exist, but rather as a description of the way in which these processes affect the crops, livestock and livestock products referred to earlier in this chapter.

Many of the processes are also referred to in this Year Book in the relevant section of the chapter. For details on the operations of the Australian Agricultural Council, the Rural Reconstruction Scheme and the agricultural extension services provided by the States' Departments of Agriculture see Year Book No. 61, pages 837-839.

CHAPTER 14

FORESTRY AND FISHERIES

FORESTRY

Source of statistics

Statistics relating to forested areas have been compiled by the Forestry Branch, Department of Primary Industry from data supplied by State and Territory Forest Services and by private forestry companies. Statistics of timber and by-products have been compiled from the annual factory collections undertaken by the Deputy Commonwealth Statisticians in the several States. Figures of production of gums, resins and tanning barks have been provided by the State forestry authorities. Data of imports and exports of forest products and timber products have been compiled by the Australian Statistician as part of the statistics of overseas trade. The figures shown relate, in general, to years ended 30 June.

Objects of forestry

The main object of forestry authorities is to manage the forests of the country in a manner that will provide maximum benefits, both direct and indirect, for the community. The authorities aim to promote the multiple use concept in management under which forests remain in perpetuity as sources of valuable raw material, areas of natural beauty, sanctuaries for fauna and flora, and areas for scientific investigation and watershed protection. The provision of special protected areas such as forest parks for recreational use and for the conservation of plants and animals is an objective. Forestry also aims at improving existing forests and woodlands by properly controlled harvesting, by protection from such destructive agencies as fire, insects and diseases, and by inducing regeneration. The provision of a partial tree cover on denuded lands where this cover is necessary for protective purposes, and a complete cover when the land is more suited under forest than under other land use, are further aims of forestry.

General account of forests and timbers

The area of land in Australia suitable for the production of commercial timber as the principal objective is very small in comparison with the size of the continent. Productive or potentially productive forests cover 43 million hectares, and of these 98 per cent are natural forests. Thirty-five million hectares of the natural forests are dominated by eucalypts. For a description of the types of timber grown in Australia see Year Book No. 61, Chapter 24.

Extent of forested areas

The total area of forest, 43 million hectares, is based on a definition which includes plantations, native forest with existing or potential mature height of 20 metres or more, and cypress pine forest in commercial use regardless of height. The following tables show classifications of native forest areas in Australia by forest type and by ownership. Plantation areas are dealt with separately.

NATIVE FOREST AREAS CLASSIFIED BY FOREST TYPE, 30 JUNE 1979

(Source: Forestry Branch, Department of Primary Industry)

('000 hectares)

Forest type	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Rainforest	300	—	1,085	—	—	472	38	—	1,895
Eucalypt—									
Productivity—Class I	1,173	645	205	—	176	504	—	—	2,703
Class II	3,649	4,582	1,290	—	2,816	1,848	—	51	14,236
Class III	8,320	559	3,300	—	19	—	—	—	12,198
Tropical eucalypt and paperbark	—	—	4,078	—	—	—	2,450	—	6,528
Cypress pine	1,908	—	1,686	—	—	—	778	—	4,372
Total	15,350	5,786	11,644	—	3,011	2,824	3,266	51	41,932

NATIVE FOREST AREAS CLASSIFIED BY OWNERSHIP, 30 JUNE 1979

(Source: Forestry Branch, Department of Primary Industry)

('000 hectares)

Ownership	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
State forestry (a)	2,866	(b) 2,358	3,203	—	1,913	1,272	(b) 312	—	11,924
Other public (c)	6,208	2,750	1,394	—	435	399	2,639	51	13,876
National parks (d)	993	128	5,747	—	105	122	315	—	7,410
Private (e)	5,283	550	1,300	—	558	1,031	—	—	8,722
Total	15,350	5,786	11,644	—	3,011	2,824	3,266	51	41,932

(a) Publicly owned land, reserved for or dedicated primarily to timber production. (b) As at 30 June 1971. (c) Publicly owned land, vacant or occupied under lease on which control of timber harvesting is in Government control although the land is not reserved for production forestry purposes. (d) Publicly owned land reserved for purposes other than timber production and on which such harvesting is not normally allowed. (e) Privately owned land and public land on which the Government has not reclaimed the rights of timber marketing.

Plantations

The indigenous forest of Australia does not contain adequate supplies of coniferous timber, and Australia's requirements have had to be met largely by imports. As a result of the planned policy of the forest services and of several private commercial organisations, the area of coniferous plantations, mainly of exotic species, is steadily increasing. It was natural that this aspect of forestry should receive earliest attention in South Australia, as this is the State most poorly endowed with natural forest. South Australia now has a large area of productive coniferous plantations, and for some years has been obtaining considerable quantities of timber from these plantations. Production is also increasing in other States, and the thinnings from their plantations are already supplying a significant volume of timber. At 31 March 1979, the total area of coniferous plantations was about 681,500 hectares.

The total production of roundwood from Australia's coniferous plantations is now about 3.4 million cubic metres per annum and is expected to increase substantially during the next decade.

A special article giving a detailed account of the history and development of coniferous plantations and of the characteristics of individual species is included in Year Book No. 59, page 880.

Broadleaved plantations (mainly *Eucalyptus* and *Populus* spp) comprise about 45,800 hectares, a much smaller area than for the coniferous plantations. Plantations of ash eucalypts (including *E. delegatensis* and *E. regnans*) for pulpwood in Victoria, and poplar plantations in the Eastern States make up a substantial proportion of the total broadleaved plantation area. The following tables show total area of plantations in Australia classified by species and by ownership.

PLANTATION AREAS BY PUBLIC OWNERSHIP (a), CLASSIFIED BY SPECIES, 31 MARCH 1979

(Source: Forestry Branch, Department of Primary Industry)

(Hectares)

Species group	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Coniferous—									
<i>Pinus radiata</i>	118,472	78,045	2,516	66,584	22,250	31,231	—	12,788	331,886
<i>Pinus pinaster</i>	—	495	—	5,411	23,221	—	—	—	29,127
<i>Pinus elliotii</i>	3,883	—	58,574	—	43	—	—	—	62,500
<i>Pinus caribaea</i>	1,026	—	12,147	—	—	—	313	—	13,486
<i>Araucaria</i> spp.	1,550	—	39,814	—	—	—	—	—	41,364
Other coniferous spp.	4,576	3,741	4,432	535	136	248	900	851	15,419
Total coniferous	129,507	82,281	117,483	72,530	45,650	31,479	1,213	13,639	493,782
Broadleaved—									
<i>Eucalyptus</i> spp.	8,556	6,903	1,623	859	8,300	554	—	—	26,795
<i>Populus</i> spp.	—	17	—	—	—	—	—	—	17
Other broadleaved spp.	—	55	472	—	—	—	—	—	527
Total broadleaved	8,556	6,975	2,095	859	8,300	554	—	—	27,339
Total	138,063	89,256	119,578	73,389	53,950	32,033	1,213	13,639	521,121

(a) Includes both State forestry and other public authorities.

PLANTATION AREAS BY PRIVATE OWNERSHIP, CLASSIFIED BY SPECIES 31 MARCH 1979

(Source: Forestry Branch, Department of Primary Industry)

(Hectares)

<i>Species group</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
Coniferous—									
Pinus radiata	30,216	76,476	1,200	19,536	10,992	9,840	—	—	148,260
Pinus pinaster	—	3	—	—	179	—	—	—	182
Pinus eliottii	7,680	—	26,649	—	—	—	—	—	34,329
Pinus caribaea	—	—	623	—	—	—	1,178	—	1,801
Araucaria spp.	—	—	724	—	—	—	—	—	724
Other coniferous spp.	—	—	852	—	—	—	1,600	—	2,452
<i>Total coniferous</i>	<i>37,896</i>	<i>76,479</i>	<i>30,048</i>	<i>19,536</i>	<i>11,171</i>	<i>9,840</i>	<i>2,778</i>	<i>—</i>	<i>187,748</i>
Broadleaved—									
Eucalyptus spp	7,034	5,497	1,262	—	—	1,819	—	—	15,612
Populus spp.	2,318	450	—	—	—	—	—	—	2,768
Other broadleaved spp.	—	—	91	—	—	—	—	—	91
<i>Total broadleaved</i>	<i>9,352</i>	<i>5,947</i>	<i>1,353</i>	<i>—</i>	<i>—</i>	<i>1,819</i>	<i>—</i>	<i>—</i>	<i>18,471</i>
Total	47,248	82,426	31,401	19,536	11,171	11,659	2,778	—	206,219

Australian Government assistance*Softwood Forestry Development*

Since 1966 the Commonwealth Government has provided loans to the States for the planting and/or maintenance of softwood forests, with a view to making Australia self-sufficient in forest products.

Under the *Softwood Forestry Agreements Act* 1978 the Commonwealth Government provides assistance to the States during the five year period commencing 1977–78, to cover the cost of maintaining softwood forestry plantations established under the *Softwood Forestry Agreement Acts* 1967, 1972 and 1976. The assistance for the maintenance program is provided by way of loans repayable over 20 years with repayments commencing 15 years after the date of each advance. Depending on State preferences, interest is either capitalised over the deferment period, or paid as it falls due. Payments are of the order of \$5 million per annum.

Other Forestry—Assistance to Tasmania

The Commonwealth Government has agreed to provide financial assistance to Tasmania of \$136,000 per annum towards the cost of native forest improvement projects to be undertaken during the five year period commencing 1978–79. Over the four years 1979–80 to 1982–83, that assistance is being supplemented by the provision of further loan funds of \$100,000 per annum to assist the establishment of eucalypt plantations on marginal farmland and for the purchase of such farmland. The loans are repayable over 40 years commencing 20 years after each advance is made.

Tasmania received \$272,000 in 1979–80 including assistance in respect of 1978–79. The estimated payments in 1980–81 are \$336,000.

Forest administration and research*Department of Primary Industry, Forestry Branch*

Following the transfer of research functions of the Forestry and Timber Bureau to the Commonwealth Scientific and Industrial Research Organization, Division of Forest Research in 1975, the remaining functions were subjected to a reorganisation which led to the establishment of a Forestry Branch within the Department of Primary Industry. The functions of the Forestry Branch include the formulation of policies on aspects of forestry relevant to Commonwealth Government responsibilities, to collate and publish statistics relevant to forestry and to the end use of the produce of forests, to service the Australian Forestry Council and attendant bodies and to liaise with international organisations on matters predominantly of a forestry nature.

Bureau of Agricultural Economics, Forestry Commodity Economics Section

The functions of the Forestry Commodity Economics Section of the Bureau of Agricultural Economics are to monitor, interpret and report on developments in the forestry and forest products industries particularly with regard to: demand, supply and price factors in domestic and overseas markets; international trade; and the effects of existing and alternative policies on production, usage and pricing of forest products.

Commonwealth Scientific and Industrial Research Organization (CSIRO)

The Division of Forest Research in the Institute of Biological Resources conducts research in the four core areas of forest ecology and biology, silviculture, tree breeding and genetics, and harvesting. The Division also conducts research into taxonomy, forest protection, forest assessment, and seed resource conservation and distribution. The Division maintains close liaison with relevant State authorities and, on occasion, collaborates with private companies. It operates seven regional stations in the States and the Northern Territory.

Within the Institute of Biological Resources (Divisions of Plant Industry, Entomology and Wildlife Research) and Earth Resources (Divisions of Soils, Land Resources Management and Land Use Research) research is undertaken on forestry problems relevant to the disciplines pursued in these Divisions.

Within the Institute of Industrial Technology, the Divisions of Building Research, Chemical Technology and Mechanical Engineering carry out a wide range of investigations relating to tree harvesting, the properties of wood, and the uses of wood and wood products. Research on processing logs and timber, solid and composite wood products, timber engineering and the applications of wood in building is undertaken by the Division of Building Research. The research programs of the Division of Chemical Technology are directed towards developing ways whereby Australia's forest resources can be more effectively utilised. The programs include the technology of fibre separation, cellulosic composite materials, lignin technology, the assessment and development of cellulosic resources, fibre properties and problems relating to the pulp and paper industry. Technology for the production of liquid fuels from wood and other plant materials is also being investigated. The Division of Mechanical Engineering undertakes research leading to the design and development of machines for tree harvesting.

The Divisions provide assistance to individuals and industry, provide training and experience for overseas technologists and maintain co-operative aid projects with developing countries.

Forestry in the Territories

The management of forests in the Australian Capital Territory is the responsibility of the Forests Section of the Department of the Capital Territory. Forests in the Northern Territory are under the control of the Northern Territory Parks and Wildlife Commission.

Forestry in the States

The objectives of the State Forest Services are primarily the development of permanent forest reserves in each State and to manage these reserves on a multiple use basis. These uses include timber production, provision of minor forest products, grazing, protection of native flora and fauna, recreation and watershed protection. The powers and functions of the State forestry authorities are laid down under forestry Acts and Regulations, and are limited to public lands, in particular to lands set aside for forestry purposes. The functions include the introduction and implementation of proper measures for management and protection of forest land, harvesting, conversion and marketing of forest products. All State forest services are actively engaged in research programs aimed at improving the growth and yield of forest products and in some cases (New South Wales and Queensland) research aimed at improving the utilisation of forest products. All State forestry authorities publish annual reports.

Public land permanently reserved for or dedicated primarily to timber production in Australia amounts to 13.6 million hectares. State forestry authorities also have control over the timber on approximately 20 million hectares of crown land not specifically reserved for permanent timber production.

Private forestry

Privately owned land carrying productive or potentially productive native forests constitute an important part of Australia's forest resource. However, with the exception of forested land owned or managed by industrial forestry companies these forests are largely unmanaged for timber production. The area of privately owned coniferous plantations continues to increase. The activities of the industrial forestry companies predominate but the small private tree plantation holdings play an important role in the total supply of timber from these plantations.

In New South Wales, Victoria and Tasmania the State Forest Services provide advice and loans for the establishment of private forests. Victoria also provides financial assistance for non-commercial tree planting which will benefit the community. In other States, Forest Services provide advice and suitable planting stock for private landowners interested in forestry.

The Australian Forest Development Institute is an active association of private forest growers with chapters covering all States of the Commonwealth.

Forestry education

The Australian National University's (ANU) Department of Forestry in Canberra and the Faculty of Agriculture and Forestry of the University of Melbourne offer undergraduate courses leading to a Bachelor of Science degree in forestry. Universities in all States have facilities for post-graduate studies for forestry graduates. The Victorian School of Forestry at Creswick is a College of Advanced Education, administered by the Forests Commission. The school's main function until 1979 was to provide a three year Diploma course to train foresters for the State Forests Department and other State authorities of Victoria with managerial responsibility over forested land. The School is affiliated with the University of Melbourne. States other than Victoria offer traineeships tenable at the ANU to students selected for university training in forestry. These traineeships support the students and meet their expenses throughout the four year university course. Successful graduates are appointed as forestry officers in the State Forest Services. A limited number of post-graduate forestry scholarships are offered by the Commonwealth Government.

The Australian Forestry Council

The Australian Forestry Council comprises the Ministers responsible for forestry in the six State Governments and the Commonwealth Government.

The Council is intended to provide the means for the mutual exchange between the State and Commonwealth Governments of information and views on forestry. It co-ordinates research into problems affecting the establishment, development, management, and protection of all forests, and the utilisation of forest products. It assists in co-ordinating the work of State and Commonwealth Governments and also private enterprise in the development of Australian forestry.

The Council is supported by a Standing Committee consisting of the Assistant Secretary, Forestry Branch, Department of Primary Industry, the heads of each of the six State Forest Services, the Chief of the Division of Forest Research, CSIRO, and the Secretary of the Northern Territory Parks and Wildlife Commission.

Employment in forestry

In the following table details are shown of the number of persons employed by State forestry departments, the Department of the Capital Territory, the Northern Territory Parks and Wildlife Commission, the Forestry Branch, Department of Primary Industry in the relevant States and Territories, and the private sector of the forestry industry at 30 June 1979. The table excludes staff of forestry training establishments.

PERSONS EMPLOYED IN FORESTRY^(a), 30 JUNE 1979

Occupational group	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Professional staff—									
Foresters	213	270	119	51	87	92	11	32	875
Others	86	68	127	35	1	27	—	30	374
Field and other technical staff	151	315	121	66	317	184	39	81	1,274
Clerical staff	340	279	284	139	94	151	9	26	1,322
Labour ^(b)	1,229	1,170	1,213	334	657	568	125	81	5,377
Extraction ^(c)	2,788	455	2,230	167	816	2,144	1	80	8,681
Total	4,807	2,557	4,094	792	1,972	3,166	185	330	17,903

(a) The Forestry and Timber Bureau has provided figures for employment within its own organisation. forest works, etc.

(b) Staff engaged in silvicultural
(c) Staff engaged in felling, carting, etc. Includes direct employees only.

Forest production

FOREST PRODUCTION(a) 1978-79

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Production of logs for sawing, peeling, slicing or pulping—									
Broadleaved—									
Eucalypt and related species	'000m ³	1,916	1,430	565	4	1,437	3,643	—	8,996
Rain forest species	"	88	—	168	—	—	—	—	256
Coniferous—									
Indigenous forest conifers—									
Cypress	"	—	196	—	—	—	—	—	—
Other	"	596	57	—	—	9	—	—	—
Plantation grown conifers	"	—	725	238	935	183	151	170	3,260
Total	"	2,601	2,154	1,225	939	1,619	3,803	—	12,511
Gross value of forest products(b)									
Logs(c)	\$'000	55,504	39,172	27,174	15,970	22,202	60,402	—	3,249
Other forest products(d)	"	25,894	3,779	8,564	3,494	5,411	5,656	1	321
Total	"	81,398	42,951	35,738	19,463	27,612	66,057	1	3,570
Local value of forest products(e)—									
Total	"	81,367	39,483	22,609	19,068	26,806	53,954	1	246,858

(a) Excludes some production from private land, thought to be relatively small, details of which are not available. (b) Gross production is valued at principal markets. (c) See footnote (c) to the table Forest Production: Australia, below. (d) Includes firewood, sleepers, transoms, girders, bridge timbers, mining timber, poles, piles, charcoal (forest production only), tanning bark, essential oils, eucalyptus leaves, crude rutin. (e) Gross production valued at place of production. See footnote (b) above.

FOREST PRODUCTION(a): AUSTRALIA

	1976-77	1977-78	1978-79
Production of logs for sawing, peeling, slicing or pulping—			
Broadleaved—			
Eucalypt and related species	'000 m ³	9245	9086
Rain forest species	"	252	274
Coniferous—			
Indigenous forest conifers—			
Cypress	"	—	—
Other	"	—	—
Plantation grown conifers	"	2,929	3,066
Total	"	12,426	12,426
Gross value of forest products(b)—			
Logs(c)	\$'000	191,246	209,096
Other forest products(d)	"	52,105	54,332
Total	"	243,351	263,428
Local value of forest products(e)—			
Total	"	222,556	239,827

(a) Excludes some production from private land, thought to be relatively small, details of which are not available. (b) See footnote (b) to the table Forest Production, 1978-79, above. (c) Included in this category are amounts attributable to sawmillers who carry out their own logging activities as a secondary part of their operations. As such, the values are attributable to the sawmilling industry which is part of manufacturing industry. However, the amount has been included in this table so that the overall value of forest products might be shown. (d) Includes firewood, sleepers, transoms, girders, bridge timbers, mining timber, poles, piles, charcoal (forest production only), tanning bark, essential oils, eucalyptus leaves, crude rutin. (e) Gross production valued at place of production. See footnote (b) to the table Forest Production, 1978-79 above.

Timber and timber products

The selected details shown below have been compiled from the annual census of manufacturing establishments. For further details see Chapter 17, Manufacturing and Internal Trade.

MANUFACTURING ESTABLISHMENTS(a)—SUMMARY OF OPERATIONS, 1978-79

1978 ASIC code(b)	Industry description	Establish- ments at 30 June	Persons employed (c)	Turnover	Value added	Fixed capital expenditure less disposals
		No.	No.	\$'000	\$'000	\$'000
2531	Log sawmilling	759	13,031	388,836	223,380	14,728
2533	Veneers and manufactured boards of wood	75	5,819	268,464	106,991	4,491
2537	Hardboard woodchips	9	631	96,407	36,549	1,917

(a) All manufacturing establishments owned by multi-establishment enterprises and single establishment enterprises; with four or more persons employed. (b) Australian Standard Industrial Classification. (c) Average over whole year includes working proprietors.

TIMBER AND SELECTED TIMBER PRODUCTS PRODUCED (a)

Item		1976-77	1977-78	1978-79
Undressed sawn timber—				
Recovered from sawn logs—				
Australian grown—				
Broadleaved	'000 cu m	2,312	2,129	2,128
Coniferous	"	852	927	982
Total	"	3,164	3,056	3,110
Woodchips (green weight)—				
Hardwood (broad leaved)	'000 tonnes	3,623	3,668	3,800
Plywood—				
Commercial—(surface measure)	'000 sq m	6,550	7,290	7,696
(1 mm basis)	"	35,298	38,948	38,517
Waterproof—(surface measure)	"	4,097	3,985	3,723
(1 mm basis)	"	41,219	38,424	42,975
Particle board (resin bonded)	'000 cu m	496	522	564
Wood pulp—				
Chemical	tonne	182,775	189,814	198,253
Mechanical	"	416,905	424,090	473,291
Other	"			
Paper—				
Newsprint	tonne	206,590	207,620	208,143
Printings	"	55,329	66,345	79,229
Writing (incl. cartridge)	"	87,896	82,877	(b)
Wrapping	"	321,571	322,793	321,309
Blotting	"			(c)
Duplicating	"	30,286	40,031	(d) 107,640
Other paper	"			(e) 27,490
Tissue and sanitary papers	"	91,405	93,551	97,701
Paperboard (incl. strawboard)	"	430,711	415,449	429,626

(a) Excludes production of small single establishment enterprises with less than four persons employed and establishments engaged in non-manufacturing activities but which may carry on, in a minor way, some manufacturing. (b) Combined with 'Duplicating' paper. (c) Combined with 'Other paper'. (d) Includes 'Writing (incl. cartridge)' paper. (e) Includes 'Blotting' paper.

Woodchips

The woodchip industry entails the procurement of wood and its mechanical reduction to chips about the size of an Australian 50 cent piece. These chips are either exported for pulping or retained for use in domestic pulping operations. In 1978-79 the production of hardwood chips in Australia amounted to 3,800,000 tonnes.

Imports

IMPORTS OF CRUDE WOOD AND TIMBER

		Quantity			Value f.o.b. (\$'000)		
		1977-78	1978-79	1979-80p	1977-78	1978-79	1979-80p
Crude wood, and timber—							
Wood waste and charcoal	'000 cu m	n.a.	n.a.	n.a.	8	23	19
Wood in the rough or roughly squared	"	33	24	1	2,146	1,670	155
Wood shaped or simply worked—							
Railway or tramway sleepers	"	17	7	5	3,048	1,539	1,088
Timber, sawn lengthwise, sliced or peeled, but not further prepared, of a thickness exceeding 5 mm—							
Conifer—							
Douglas fir	"	336	374	329	42,006	54,259	57,553
Hemlock and balsam	"	79	88	99	6,332	7,636	11,840
Radiata pine	"	63	29	43	2,604	2,445	4,272
Redwood	"	3	5	2	612	1,680	857
Western red cedar	"	86	75	75	13,864	18,483	23,271
Other	"	6	16	14	(a)878	(b)2,367	(c)2,001
Total conifer	"	573	587	462	66,296	86,870	99,794
Non-conifer	"	236	227	242	(d)29,813	(e)36,720	(f)53,823
Timber (including blocks, strips, etc.), planed, tongued, grooved, rebated, etc., but not further manufactured—							
Conifer	'000 cu m	61	93	125	8,539	13,771	21,690
Non-conifer	"	65	66	57	13,921	14,923	17,331

(a) Includes a value of \$3,182 for which no quantity has been included. (b) Includes a value of \$15,000 for which no quantity has been included. (c) Includes a value of \$32,000 for which no quantity has been included. (d) Includes a value of \$180,000 for which no quantity has been included. (e) Includes a value of \$182,000 for which no quantity has been included. (f) Includes a value of \$384,000 for which no quantity has been included.

Exports

EXPORTS OF CRUDE WOOD AND TIMBER(a)

		Quantity			Value f.o.b. (\$'000)		
		1977-78	1978-79	1979-80p	1977-78	1978-79	1979-80p
Crude wood, and timber—							
Wood waste and charcoal (including shell and nut charcoal)	'000m ³	n.a.	n.a.	n.a.	62	15	20
Pulpwood	"	—	n.a.	n.a.	—	93,588	148,689
Wood in the rough or roughly squared	"	4	131	59	258	586	1,031
Wood, shaped or simply worked—							
Railway or tramway sleepers	"	23	34	33	3,797	5,569	5,586
Timber, sawn lengthwise, sliced or peeled, but not further prepared, of a thickness exceeding 5 mm—							
Conifer	"	9	4	3	41	303	737
Non-conifer—Jarrah	"	1	1	2	294	227	346
Other	"	28	41	43	4,834	7,664	11,854
Timber (including blocks, strips and friezes for parquet or wood block flooring, not assembled), planed, tongued, etc.—							
Conifer	"	1	—	3	493	29	262
Non-conifer	"	32	1	3	303	409	615

(a) Excludes re-exports.

FISHERIES

Collection and presentation of fisheries statistics

Source and basis of statistics

Statistics presented in this section of the chapter have been collected by a number of authorities. The various State fisheries authorities have supplied, through the Deputy Commonwealth Statisticians in the States, the details of employment, boats, equipment, and production of the general fisheries. The Fisheries Division of the Department of Primary Industry has supplied particulars of the whaling industry and pearl-shell fishery. Statistics of the processing of general fisheries products and of overseas trade in the products of fishing and whaling have been compiled by the Australian Bureau of Statistics.

Australian fisheries production statistics are generally in terms of the form in which they are taken from the water. For example, the statistics of fish production published in this chapter are in terms of 'estimated live weights' which are calculated from landed weights by using conversion factors for each species in each State. These conversion factors allow for the fact that the quantities of fish reported are frequently in a gutted, headed and gutted, or otherwise reduced condition. Crustaceans are reported on an 'estimated live weight' basis and molluscs (edible) on a 'gross (in-shell) weight' basis. The figures for pearl-shell and trochus-shell refer to the actual quantities of dry shell for sale and exclude the weight of the fish.

Fisheries resources and their commercial exploitation

Fish

Approximately 2,000 species of marine and freshwater fish occur in and around Australia, about forty of which support substantial commercial fisheries. Most fishing is confined to waters over the continental shelf on the populous eastern and south-eastern seaboard, including Tasmania and South Australia, and off the south-western corner of the continent. As in other countries, fisheries in Australia may be divided into estuarine fisheries, located in the tidal waters of rivers and coastal lakes, beaches and bays; pelagic fisheries, which are found in the surface layers of the open ocean; and demersal fisheries, which are located in the bottom layers of the sea. Estuarine fisheries produce considerable quantities of mullet (mainly *Mugil cephalus*), bream (*Acanthopagrus spp*) and, in northern Australia, the highly regarded giant perch (*Lates calcarifer*). Important freshwater fisheries in New South Wales, Victoria and South Australia include those for Murray cod (*Maccullochella spp*), golden perch (*Plectroplites ambiguus*), eels (*Arguilla australis*) and European carp (*Cyprinus carpio*). Trout are farmed in New South Wales, Victoria, South Australia, Western Australia and Tasmania. Important pelagic fisheries include those for Australian 'salmon' (*Arripis trutta*), southern bluefin tuna (*Thunnus maccoyii*), snoek (*Leionura atun*), spanish mackerel (*Scomberomerus commersoni spp*), and clupeoids (*Sardinops neopilchardus* and *Engraulis australis*). Demersal fisheries include those for snapper (*Chrysophrys auratus*), whiting (*Sillaginidae*) and from tropical waters the so called 'cods' (*Epinephelus*, etc.). Trawl fisheries off New South Wales and Victoria yield species such as flathead (*Neoplatycephalus* and *Trudis spp.*), morwong (*Nemadactylus spp.*), Silver Dory (*Cyttus Australis*) and John Dory (*Zeus faber*). Expansion of trawling onto the continental slope off central New South Wales and in Western Bass Strait has established a fishery for gemfish (*Rexea solandri*). The valuable fishery for edible school and gummy shark (*Galeorhinus australis* and *Mustelus antarcticus*) in south-eastern Australia declined significantly in the year 1972–73 because of the discovery of a high mercury content in large school shark, but production and prices have since risen as the fishery for gummy sharks has expanded, although production has not attained its former level. A fishery for clupeoids in the Bass Strait which supplies the raw material for a fish meal plant at Lakes Entrance, Victoria, is the only established 'industrial fishery' in Australia.

Crustaceans

Prawns (*Penaeus* and *Metapenaeus spp*) provide the most valuable fishery in Australia and are taken in estuarine, coastal and offshore waters of all States except Tasmania. The western and southern rock lobsters (*Panulirus longipes cygnus* and *Jasus novaehollandiae*), also a valuable resource, are taken on rocky reefs around the southern half of Australia. Over the last decade, important fisheries have been established in northern Australia and South Australia. Interest in deep water prawn stocks off New South Wales is growing. Bay lobsters (*Thenus spp* and *Ibacus spp*) are taken incidentally to prawn trawling operations. Crabs (*Scylla spp* and *Portunus spp*) are taken mainly in Queensland, New South Wales and Western Australia.

Molluscs (edible)

Naturally-occurring oysters are harvested in all States; in New South Wales and Queensland the Sydney rock oyster (*Crassostrea commercialis*) is cultured commercially. The introduction of the Pacific oyster (*Crassostrea gigas*) to Tasmania and South Australia has provided a limited supply in those States. Following a serious decline in catches in the scallop (*Pecten meridionalis*) fishery based on stocks in Port Phillip Bay, Victoria, new offshore beds were located in southern New South Wales, eastern Victoria, northern Tasmania and south-western Western Australia. However, substantial fluctuations in abundance have resulted in erratic production from year to year. A fishery based on the saucer scallop (*Amusium balloti*) is located off south and central Queensland and there is a small fishery for the same species in Shark Bay, Western Australia. An important abalone (*Haliotis spp*) fishery has been developed since 1964 in south-east Australia with Tasmania, Victoria and South Australia providing the bulk of the catch. There is also a small abalone fishery in south-west Australia.

Mussels (*Mytilus planulatus*) are harvested in Victoria, Western Australia and New South Wales. Prior to 1978 small quantities of cephalopods, mainly squid, were produced in many localities. Since 1978 feasibility projects involving Japanese squid jigging vessels have indicated good prospects for a commercial squid fishery in south-east Australia.

Pearl-shell and trochus-shell

The shell of the Australian species of pearl oyster (*Pinctada maxima*) is taken from various localities in the tropical waters of Australia between Broome in Western Australia and Cairns in Queensland for the manufacture of buttons, knife handles, etc. Live pearl-shell is used for pearl culture, *Pinctada maxima* being capable of producing pearls which are the largest in the world and which command top market prices. Trochus-shell is found mainly on coral reefs off the Queensland coast, although small quantities occur in Western Australia.

Whales

Since 1955, sperm whale (*Physeter catodon*) were taken in southern waters off Western Australia. However the numbers of shore stations responsible for carrying out processing operations have decreased and late in 1978 the last of these, located at Albany, Western Australia closed. Whales are now a protected species in the Australian Fishing Zone.

Fisheries administration and research

The Constitution of the Commonwealth (section 51 (x)) assigns to the Commonwealth Government power to legislate for fisheries in Australian waters beyond territorial limits, the residual power in respect to waters within territorial limits (including inland waters) resting with the States. The Commonwealth Government has made similar arrangements for each of its Territories. Each State and Territory has legislation regulating fisheries in waters within its jurisdiction. Persons taking fish for sale, and their boats, are required to be licensed, and provision is made for management of the fisheries.

The Commonwealth Government laws regulating the fisheries are the *Fisheries Act* 1952, the *Continental Shelf (Living Natural Resources) Act* 1968 and the *Whaling Act* 1960. Each of these applies in accordance with the Commonwealth Government's fishery power under the Constitution.

Fisheries Act

This Act, as amended in 1978, established a 200 mile Australian fishing zone around Australia and its external Territories. It requires Australians and foreigners engaged in commercial fishing and boats used for such fishing to be licensed. As well as giving effect to Australia's sovereign rights over the living resources of the 200 mile zone, the Act, in accordance with International Law, imposes an obligation on Australia to manage the resources so that they are conserved for optimum utilisation by mankind, both now and in the future.

The *Fisheries Act* 1952 and the *Continental Shelf (Living Natural Resources) Act* 1968 were amended in 1980 to complement the *Whale Protection Act* 1980 in respect of the preservation, conservation and protection of all species of whale. The *Whale Protection Act* 1980 is administered by the Minister for Home Affairs and Environment.

As part of the Commonwealth/State arrangements for the sharing of resources in the seas surrounding Australia; the amended *Fisheries Act* 1952 provides mechanisms for the Commonwealth and a State, or States, to consult and agree on management of a particular fishery and then for one or the other to apply its laws to implement agreed measures throughout the fishery irrespective of whether the fishery is within or beyond the three mile limit of territorial waters. These arrangements will not be possible until complementary State legislation has been enacted.

Continental Shelf (Living Natural Resources) Act

This Act implements in Australian law the sovereign rights conferred on Australia by the Convention on the Continental Shelf, Geneva, 1958 in respect of the organisms belonging to sedentary species (that is, organisms which, at the harvestable stage, either are immobile on or under the seabed, or are unable to move except in constant physical contact with the seabed or the subsoil) on the continental shelf. The continental shelf comprises the seabed and subsoil of the submarine areas adjacent to the coast but outside the territorial sea to a depth of 200 metres, or beyond that depth where the depth of the superjacent waters admits of the exploitation of the natural resources of the area. The Act requires the licensing of persons searching for and taking sedentary organisms, of boats used to search for and take sedentary organisms, and of persons employing divers, trial divers and divers' tenders in taking sedentary organisms if such activities are carried out in controlled areas of the continental shelf of Australia or the Territories for a commercial purpose. Provision is made for proclamation of sedentary organisms to which the Act applies, for the establishment of controlled areas of continental shelf

in respect of specified sedentary organisms, and for the management and conservation of sedentary organisms in controlled areas (the last of these applying to all persons whether the purpose of the taking of the sedentary organism is commercial or not). The Act applies to all persons including foreigners, and to all boats including foreign boats.

Whaling Act

In June 1980, the *Whale Protection Act* 1980 received Royal Assent and will be proclaimed when arrangements have been concluded with the State Governments. The legislation prohibits killing, capturing, injuring or interference with a whale, dolphin or porpoise in the Australian fishing zone and by Australians domiciled in Australia and Australian fishing vessels and aircraft and their crews beyond the 200 mile Australian fishing zone, with penalties up to \$100,000.

Administration

Australian fisheries are administered by the authority having jurisdiction over the waters concerned. In inland waters and in waters within territorial limits, administration is the responsibility of the State or Territory fisheries authority. In proclaimed waters, and on the continental shelf beyond territorial limits, administration is the responsibility of the Commonwealth Government which by agreement, has delegated to State fisheries authorities the necessary authorities for day-to-day administration of the Acts.

The administration of the fisheries is directed to a number of objectives of which the two most important are: conservation and management of the living resources of the Australian Fishing Zone to ensure that they are not endangered by over exploitation; and achievement of the optimum utilisation of the living resources by the Australian fishing industry and foreign interests. Although fishery resources are common property there are restrictions on trawlers greater than 40 metres in southern waters fisheries such as those for rock lobster, abalone, southern bluefin tuna and prawns in northern Australia where the number of boats are controlled, and the rock lobster fisheries where the quantities of fishing gear are controlled. The only other restrictions on the entry of boats into the Australian fishing industry are those relating to foreigners and to processing boats in the northern prawn fishery. Management measures have been introduced in several fisheries to provide controls such as minimum sizes, closed areas, closed seasons and regulation of the type of fishing gear that may be used.

The Fisheries Development Trust Account (established under the *Fishing Industry Act* 1956) and the Fishing Industry Research Trust Account (established under the *Fishing Industry Research Act* 1969) are available to support financially projects for the development and management of the fisheries and fishing industry which are consistent with the purposes of those Acts. The former was established with the proceeds of the sale of the assets of the Australian Whaling Commission and was replenished from Consolidated Revenue in 1976-77. The latter is a matching fund into which is paid each year an appropriation from Commonwealth Government Revenue equal to amounts collected from the fishing industry by the State Fisheries Authorities and expended by the States for the same purposes.

Research

The main aim of fisheries research in Australia is to provide a background of biological, technical and economic information which will provide guidance for the efficient and rational utilisation of fisheries resources. To this end much of the research already undertaken has been directed at formulating recommendations for management of various fisheries. Research work, including feasibility fishing projects involving foreign fishing vessels, is also carried out and is expected to lead to the development of new fisheries, the expansion of under-exploited fisheries, greater economy in operations and the use of more efficient equipment and methods.

Organisations in Australia at present engaged in research into fisheries matters are:

- (i) CSIRO Division of Fisheries and Oceanography, which has its headquarters and main laboratory at Cronulla, N.S.W. and regional laboratories in Perth and Brisbane (fisheries science and oceanography);
- (ii) CSIRO Division of Food Research, conducts research into handling, storage, processing and transportation of fish at its laboratory in Hobart, Tasmania;
- (iii) State fisheries departments (fisheries laboratories have been established in Perth, Hobart, Melbourne, Sydney, Brisbane, Darwin and Cairns; research vessels are operated by New South Wales, Victoria, Western Australia, Tasmania and South Australia;
- (iv) Fisheries Division, Department of Primary Industry, Canberra (economic and management research, fishing technology, extension and education service); and
- (v) private fishing companies (surveys of fisheries resources, research into handling, processing and marketing).

Boats and equipment used in fisheries

Fish, crustaceans and molluscs (edible)

The boats used for the estuarine fisheries are mostly small vessels propelled by diesel or petrol engines of low power. The offshore vessels range up to 40 metres in length and are almost invariably powered by diesel engines. Most of them have either insulated holds and carry ice, or are equipped with dry or brine refrigeration. Some rock lobster vessels are fitted with wells in which the catch is kept alive.

The following are the types of equipment most commonly used in the main fisheries: *mullet*, beach seine, gill net; *shark* (edible), long-lines, gill net; *Australian salmon*, beach seine; *snoek*, trolling lines; *flathead*, Danish seine, otter trawl; *snapper*, long-lines, traps, gill net, hand-line; *morwong*, Danish seine, otter trawl, traps; *whiting*, handlines, Danish seine, beach seine, gill net; *garfish*, beach seine; *mackerel*, trolling lines; *tuna*, pole and live-bait, purse seine, trolling lines (lampara nets and purse seines are used for taking live bait for tuna); *prawns*, otter trawl, beam trawl, beach seine net; *rock lobster*, pots, traps; *scallops*, dredge, otter trawl; *abalone*, diving using hookah gear; and *pilchards*, *anchovies*, *jack mackerel* and *striped tuna*, purse seine.

Pearls, pearl-shell and trochus-shell

Ketch-rigged luggers about 15 metres long which carry crews of eight to fourteen members are used for pearl-shell fishing in northern Australia.

Boats and equipment employed by industry

The following table shows details of boats and equipment engaged in the taking of fish, crustaceans and edible molluscs, and pearl-shell and trochus-shell; and the number of chasers and stations engaged in whaling operations. Boats engaged in more than one industry are classified to their main activity.

FISHERIES: BOATS AND EQUIPMENT

		1976-77	1977-78	1978-79
General fisheries—				
Boats	No.	9,515	10,920	n.a.
Value of boats and equipment	\$'000	247,502	n.a.	n.a.
Edible oyster fisheries—				
Boats	No.	(a)(b)1,747	n.a.	n.a.
Value of boats and equipment	\$'000	(a)(b)5,742	n.a.	n.a.
Pearl-shell and trochus-shell—				
Boats(c)	No.	17	17	17
Whaling(c)—				
Chasers	No.	3	3	..
Stations operating	No.	1	1	..

(a) Incomplete; excludes Queensland and Tasmania.

(b) Incomplete; excludes South Australia.

(c) Source: Department of Primary Industry.

Employment in fisheries

Classification of registered commercial fishermen by industry

The following table has been derived mainly from the licensing records of the various State fisheries authorities. Persons engaged in more than one industry are classified according to their main activity, and so may be classified differently from one year to the next.

PERSONS EMPLOYED ON FISHING BOATS

Industry	1976-77	1977-78	1978-79
General fisheries(a)	17,613	n.a.	n.a.
Edible oyster fisheries	(b)(c)1,434	n.a.	n.a.
Pearl-shell and trochus-shell(d)	151	156	156
Whaling(d)—			
At sea	51	51	..

(a) Figures for general fisheries refer to number of persons (including skippers) reported as usually employed on boats. Persons reported as usually employed on more than one boat for a particular year are counted more than once for that year. Includes the number of licenced commercial fishermen in Western Australia. (b) Incomplete; excludes Queensland and Tasmania. (c) Incomplete; excludes South Australia. (d) Source: Department of Primary Industry.

Production, processing and domestic marketing of fisheries products

Value of fisheries production

The following table shows the gross value and local value of fishing and whaling production by States. Because the value of materials used in the course of production is not available for all States, it is not possible to show a comparison of net values. *Gross value of production* is the value placed on recorded production at the wholesale price realised in the principal markets. In general, the 'principal markets' are the metropolitan markets in each State, although, in cases where commodities are consumed locally or where they become raw material for a secondary industry, these points are presumed to be the principal markets. *Local value* (i.e. gross value of commodities produced at the place of production) is ascertained by deducting marketing costs from the gross value of commodities produced. Marketing costs include freight, cost of containers, commission, and other charges incurred in marketing. Gross and local values of primary commodities produced involve some duplication as they include certain primary commodities which are consumed as raw materials to produce other primary commodities (e.g. hay consumed by livestock).

FISHERIES: GROSS AND LOCAL VALUE OF PRODUCTION
(\$'000)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Aust.
GROSS VALUE								
1973-74 . .	(a)20,974	10,895	(b)(c)15,196	17,442	30,494	7,014	(a)7,295 (a)(b)(c)109,310	
1974-75 . .	(a)24,609	8,686	(b)12,606 (d)14,083	35,130	6,928	5,667 (a)(b)(d)107,709		
1975-76 . .	31,599	10,601	(b)(c)17,137 (d)22,474	51,079	8,511	5,228 (b)(c)(d)146,629		
1976-77 . .	36,059	16,014	(b)(c)34,955 (d)27,199	69,094	11,662	11,357 (b)(c)(d)206,340		
1977-78 . .	39,665	17,977	(b)(c)40,808 (e)23,615	88,340	12,609	10,337 (b)(c)(e)233,351		
1978-79 . .	42,286	20,025	58,214 (e)30,475	90,743	14,636	19,487 (e)279,308		
LOCAL VALUE								
1973-74 . .	16,568	8,682	14,387	15,433	30,313	7,014	7,295	99,692
1974-75 . .	21,569	6,949	11,732	12,496	34,785	6,928	5,667	100,127
1975-76 . .	25,334	8,481	16,152	20,022	50,870	8,511	5,228	134,598
1976-77 . .	30,352	13,917	33,953	24,207	68,864	11,662	11,357	194,312
1977-78 . .	32,993	16,539	39,677	21,034	88,038	12,609	10,337	221,226
1978-79 . .	34,871	18,423	56,414	27,199	90,434	14,636	19,487	264,906

(a) Incomplete; excludes octopus, squid and cuttlefish in New South Wales. (b) Incomplete; excludes oysters in Queensland. (c) Incomplete; excludes rock lobster in Queensland. (d) Incomplete; excludes oysters in South Australia. (e) Incomplete, excludes octopus, cuttlefish, oysters and scallops in South Australia.

Production of selected fisheries

SELECTED FISHERIES PRODUCTS: PRODUCTION AND GROSS VALUE
1978-79

Product	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Aust.
QUANTITY (tonnes)								
Fish(a)	25,803	9,303	5,085	9,484	9,540	2,605	1,576	63,395
Crustaceans(a)	2,326	279	10,747	4,428	15,034	1,305	3,520	37,640
Molluscs (edible)(a)	8,912	7,816	(b)3,346	(c)1,274	932	4,380	8	(d)26,667
GROSS VALUE (\$'000)								
Fish	17,526	13,125	6,351	8,714	6,085	2,482	2,334	56,617
Crustaceans	9,665	1,289	49,584	19,847	72,960	5,904	17,142	176,391
Molluscs (edible)	15,095	5,611	(b)2,279	(c)1,913	1,188	6,250	11	(d)32,348

(a) Estimated live weight. (b) Incomplete. Excludes oysters in Queensland. (c) Incomplete. Excludes octopus, cuttlefish, oysters and scallops in South Australia. (d) Incomplete; see individual States.

SELECTED FISHERIES PRODUCTS: PRODUCTION, AND GROSS VALUE, AUSTRALIA

Product	1976-77	1977-78	1978-79
QUANTITY (tonnes)			
Fish(a)(b)	59,111	62,789	63,395
Crustaceans(a)	(c) 36,867	(c) 34,641	37,640
Molluscs (edible)(a)	(d) 22,615	(d) 25,517	(e) 26,667
Pearl-shell(e)(f)	190.2	150.0	185.0
Trochus-shell(f)	—	—	—
GROSS VALUE (\$'000)			
Fish(b)	43,891	52,778	56,617
Crustaceans	(c) 125,895	(c) 139,237	176,391
Molluscs (edible)	(d) 27,060	(d) 26,581	(e) 32,348
Pearl-shell(f)(g)	182	124	188
Trochus-shell(g)	—	—	—

(a) Estimated live weight. (b) Excludes freshwater fish caught in Queensland. (c) Excludes rock lobster in Queensland.
 (d) Incomplete; excludes oysters in Queensland and South Australia. (e) Incomplete *see* individual States in table above. (f) Excludes
 manufacturing shell produced from pearl culture operations. (g) Source: Department of Primary Industry.

FISH: PRODUCTION, BY PRINCIPAL TYPES

Type	Tonnes estimated live weight			Gross value (\$'000)		
	1976-77	1977-78	1978-79	1976-77	1977-78	1978-79
Tuna(a)	10,111	12,306	11,266	4,474	5,564	5,316
Mackerel	1,266	1,481	1,041	1,279	1,439	1,168
Snoek	419	386	186	304	166	76
Mullet	5,664	6,095	5,600	2,745	3,071	3,396
Bream (including Tarwhine)	884	834	794	1,044	1,247	1,453
Australian salmon	3,704	3,225	2,390	1,147	1,203	993
Ruff	827	1,173	1,163	263	481	443
Snapper	2,175	2,128	2,045	3,452	3,585	3,939
Morwong	1,608	1,593	1,447	1,380	1,373	1,356
Whiting	2,803	2,382	2,566	(b) 4,638	(b) 5,441	(b) 6,969
Flathead	2,039	1,966	2,169	1,557	1,590	1,896
Shark	6,795	7,935	7,452	6,446	8,647	8,465
Leatherjacket	362	365	227	240	237	171
Other	19,988	21,222	25,048	12,711	17,926	20,976
Total	58,644	63,093	63,395	44,007	53,728	56,617

(a) Includes estimates by CSIRO for New South Wales. (b) Value of whiting in Tasmania is not available for publication and has been included in 'Other'.

Crustaceans

CRUSTACEANS: PRODUCTION, BY TYPE

(Tonnes live weight)

Type	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Murray crayfish	(a) 295	184	(a) 131	83	38	21
Yabbies						
Rock lobster						
Bay lobster	(b) 11,830	12,265	(a) 12,865	(c) 12,875	(c) 14,485	15,358
Prawns	24,491	16,327	19,478	23,095	19,272	21,479
Crabs	(a) 702	712	700	825	858	782
Total	(c) 37,318	29,488	(c) 33,173	(c) 36,878	(c) 34,653	37,640

(a) Excludes Victorian figure, which is not available for publication. (b) Excludes rock lobster in Queensland. (c) Incomplete; *see* footnotes to figures for individual species.

Molluscs (edible)

MOLLUSCS: PRODUCTION, BY TYPE

(Tonnes estimated live weight)

Type	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Octopus }	(a)158	{ (b)20	(c)59	78	(c)92	(c)146
Squid }		{ (b)212	253	280	381	583
Cuttlefish }	(a)1	{ (b)-	(c)19	(c)19	(c)29	(c)90
Oysters	(d)10,479	(c)(d)8,908	(c)(d)10,273	(c)(d)10,793	(c)(d)9,786	(c)(d)8,128
Mussels	(a)63	1,019	1,123	544	773	689
Pipi	203	193	195	207	303	285
Scallops	12,425	6,062	4,642	4,396	(c)9,121	(c)10,548
Abalone	6,032	4,971	5,256	6,313	5,057	6,197
Total	(e)29,362	(e)21,386	(e)21,820	(e)22,630	(e)25,543	(e)26,667

(a) Excludes Victorian figure, which is not available for publication. (b) Excludes New South Wales figure which is not available. (c) Excludes South Australia figure, which is not available. (d) Excludes Queensland figure which is not available. (e) Incomplete; see individual species.

Pearls, pearl-shell and trochus-shell

PEARL CULTURE AND PEARL AND TROCHUS SHELL FISHING OPERATIONS(a)

(Source: Department of Primary Industry)

	1976	1977	1978
QUANTITY			
Pearl and Trochus shell fishing operations—			
Production of—			
Pearl shell(b)	tonne 190.2	150.0	185.0
Trochus shell	tonne —	—	—
Pearl culture operations—			
Live shell introduced	No. 464,327	495,465	438,496
	tonne 116.9	157.5	130.5
Production—			
Round and baroque pearls	No. 82,275	71,384	88,369
	momme(c) 64,173	48,056	55,553
Half pearls	No. 302,264	287,283	248,360
Manufacturing shell	tonne 82.4	244.0	66.7
VALUE (\$'000)			
Pearl and Trochus shell fishing operations—			
Production of—			
Pearl shell	182	124	188
Trochus shell	—	—	—
Pearl culture operations—			
Production of—			
Round and baroque pearls	5,752	8,853	11,768
Half pearls	1,063	1,197	1,104
Manufacturing shell	48	156	58

(a) Figures refer to the year ended January for the Northern Territory and Queensland and to the year ended December for Western Australia. (b) Excludes manufacturing shell produced from pearl culture operations. (c) A momme is a pearl weight measurement equivalent to 3.769 grams.

Processing of fish, crustaceans and molluscs

Processing plants are located strategically throughout Australia close to fishing grounds. A number of shore-based plants have been established in remote areas of northern Australia to service the expansion of the northern prawn fishery.

Rock lobsters, prawns, abalone and scallops are frozen for export; tuna, snoek, Australian salmon and abalone are canned; small amounts of fish are smoked; and some molluscs are bottled. Hand labour is still used extensively in processing operations, but mechanisation is being progressively introduced.

Ice is used extensively for the chilling of fish taken in estuarine and inshore fisheries. Refrigeration is used particularly on vessels operating in the tuna fishery and prawn fisheries to chill or freeze the catch.

Fish, crustaceans and molluscs intended for export are processed in establishments registered under the Export (Fish) Regulations. Edible fish for local consumption is mainly dispatched fresh-iced to markets.

Whale processing

WHALING

(Source: Department of Primary Industry)

		1976	1977	1978
Whales taken (a)—				
Male	No.	650	508	508
Females	"	345	116	171
Total	"	995	624	679
Quantity of sperm whale oil produced (b)	barrels	35,190	23,586	23,591
Value of whale oil produced	\$'000	2,240	2,268	1,689
Value of by-products (meal, meat, solubles, etc.)	"	751	647	962
Total value of products	"	2,991	2,915	2,651

(a) Sperm whales only were taken.

(b) 6 barrels = approximately 1.016 tonnes.

Oil from sperm whales is used in the manufacture of soap, plastics and watch lubricants, and in automatic transmission systems in motor cars.

Domestic marketing of fisheries products

Although virtually the whole of the tuna and Australian salmon catches are canned, the greater part of Australian fish production is marketed fresh or frozen.

Marketing arrangements for fresh fish vary. In New South Wales, fish marketing is the responsibility of the Fish Marketing Authority which operates the Metropolitan Fish Markets. In other coastal centres of New South Wales, fishermen's co-operatives may become registered as local fish markets. In Queensland, the Fish Board sells all production on behalf of fishermen in that State, except fish intended for export and interstate trade. In Victoria, South Australia, Western Australia and Tasmania, there is no restriction on market outlets. In Victoria, South Australia and Western Australia, most fish is sent to metropolitan wholesale fish markets for auctioning; small quantities are processed for sale locally, chiefly by co-operatives. Nearly all fresh fish in Tasmania is consigned direct to processors. The principal outlets for fish products in Australia are retail and catering establishments.

Consumption of edible fisheries products

Particulars of the apparent consumption of fish, crustaceans and molluscs per head of population are included in the following table. For the purposes of estimating supplies of fish available for consumption, an allowance of 10 per cent of commercial production has been made for the non-commercial catch of fish. No such allowances have been made for crustaceans or molluscs as it is considered that the non-commercial take is not significant.

FISHERIES PRODUCTS: APPARENT CONSUMPTION

(Kg edible weight per person per annum)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79p
Fresh or frozen (edible weight)—						
Fish—						
Australian	2.0	1.3	1.5	1.4	1.6	1.6
Imported	1.8	1.6	1.6	1.6	1.7	1.5
Crustaceans and molluscs	1.2	0.6	1.0	0.9	0.9	0.9
Seafood otherwise prepared (product weight)—						
Australian	0.4	0.7	0.7	0.5	0.5	0.5
Imported						
Fish	2.4	2.1	1.8	2.5	2.3	2.0
Crustaceans and molluscs . . . }						
Total seafood	7.7	6.4	6.6	6.9	7.0	6.6

Overseas trade in fisheries products

Edible fisheries products

OVERSEAS TRADE IN EDIBLE FISHERIES PRODUCTS

	Quantity (tonnes)			Value f.o.b. (\$'000)		
	1977-78	1978-79	1979-80 _p	1977-78	1978-79	1979-80 _p
IMPORTS						
Fresh, chilled, frozen or boiled (a)	22,553	24,397	21,941	36,337	46,946	43,706
Smoked, dried, salted or in brine	3,267	4,715	4,178	7,823	10,413	8,698
Potted or concentrated	141	128	239	862	877	1,773
Canned—						
Herrings	1,178	1,048	796	1,966	2,093	1,774
Salmon	6,726	4,015	5,097	22,203	13,812	20,051
Sardines, sild, brisling, etc.	3,244	2,559	2,771	7,382	6,383	6,892
Tuna	1,529	1,520	2,931	3,507	3,013	7,699
Other fish	1,991	1,491	2,250	3,106	2,442	3,716
Crustaceans and molluscs	2,257	1,929	1,966	7,021	7,422	7,259
Total canned	16,925	12,562	15,811	45,185	35,165	47,391
Other prepared or preserved fish, crustaceans and molluscs	12,132	10,946	12,046	28,508	31,122	32,036
Grand total	..	..	..	118,715	124,523	133,604
EXPORTS						
(Australian produce only; excludes re-exports)						
Fresh, chilled or frozen (b)—						
Fish	4,692	3,390	12,007	2,693	4,045	16,801
Crustaceans and molluscs—						
Rock lobster tails	4,604	4,649	4,302	55,728	56,763	59,752
Prawns	7,489	9,327	11,536	57,217	92,215	112,682
Other	2,636	3,199	4,430	(c) 12,283	(d) 17,621	26,299
Crustaceans and molluscs boiled in water	857	1,731	1,164	6,199	13,152	10,908
Prepared and preserved—						
Fish	65	191	99	280	696	472
Crustaceans and molluscs	1,485	1,322	1,563	8,671	8,563	12,862
Grand total	..	..	..	143,071	193,055	239,776

(a) Excludes frozen smoked, which is included in item 'Smoked, dried, etc.' (b) Excludes frozen smoked, which is included in item 'Prepared and preserved crustaceans and molluscs'. (c) Includes a value of \$240,000 for which no quantity has been included. (d) Total value for this item for 1978-79 includes value of \$96,000 for which no quantity has been included.

Non-edible fisheries products

OVERSEAS TRADE IN SELECTED NON-EDIBLE FISHERIES PRODUCTS

		Quantity			Value f.o.b. (\$'000)		
		1977-78	1978-79	1979-80p	1977-78	1978-79	1979-80p
IMPORTS							
Fish heads, fresh or frozen	tonnes	1,482	1,081	2,231	341	318	576
Other fish waste	"	497	466	453	105	46	63
Fish, live (a)	'000	11,546	9,194	9,703	1,432	1,221	1,346
Fish meal	tonnes	2,762	6,354	13,986	1,109	1,520	5,493
Whale oil	'000 litres	10	(b)98	4	24	104	3
Cod-liver oil	"	170	185	246	123	146	271
Other oils (including seal oil)	"	542	600	179	386	455	156
Coral and shells and their waste	tonnes	102	157	175	145	190	266
Tortoise shell (including turtle shell, claws, waste)	"	-	-	-	5	-	-
Pearls		n.a.	n.a.	n.a.	1,169	870	1,381
Total		..	..	..	4,839	4,870	9,555
EXPORTS							
(Australian produce only; excludes re-exports)							
Australian produce—							
Whale oil	'000 litres	5,219	4,826	-	2,399	1,403	1
Other oils	"	67	2	2	69	509	195
Pearl-shell	tonnes	482	307	457	644	511	1,228
Other shell (including trochus)	"	1,591	955	1,361	510	776	1,365
Natural pearls		n.a.	n.a.	n.a.	63	25	125
Cultured pearls—							
Round	No.	95,319	100,290	64,464	4,774	16,090	11,214
Half round	"	264,415	347,984	160,998	1,261	1,135	1,034
Other		n.a.	n.a.	n.a.	902	1,758	966
Total		..	..	..	10,621	22,207	16,128

(a) Live fish whether or not fit for human consumption. (b) Tonne.

Further information on subjects relating to fisheries is contained in the ABS annual publications *Fisheries, Australia (Preliminary)* (7602.0) and *Fisheries, Australia* (7603.0).

CHAPTER 15

WATER RESOURCES

This chapter is divided into two major parts:—water resources in Australia, and the management of these resources. The former provides information on such topics as the geographic background to water resources, surface and groundwater supplies and use and the drainage divisions in Australia. The latter summarises Australian and State assessment and management of water resources.

For information concerning general, descriptive and historical matter *see* Year Book No. 37, pages 1096–1141 and Year Book No. 51, pages 228–31.

An article on droughts in Australia appeared in Year Book No. 54, pages 991–6.

Introduction

Rainfall, or the lack of it, is the most important single factor determining land use and rural production in Australia. The chapter Climate and Physical Geography of Australia contains details on geographical and climatic features that determine the Australian water pattern. Australia is the driest continent in the world. The scarcity of both surface and groundwater resources together with the low rates of precipitation, which restrict irrigation and other uses (quite apart from economic factors), has led to extensive conservation programs of dams, reservoirs, large tanks and other storages.

Geographic background

General. Water resources are determined by rainfall, evaporation and physical features including soil, vegetation and geology. Chapter 2, Climate and Physical Geography of Australia, contains a detailed description of the climatic features of the country. A brief description of the landforms appears in Year Book No. 61, pages 25–27. In assessing Australia's water resources, dependability and quality of supply must be considered, as well as amount.

Topography. The major topographical feature affecting the rainfall and drainage patterns in Australia is the absence of high mountain barriers; features range from sloping tablelands and uplands along the east coast Main Divide through the low plain and marked depression in the interior to the Great Western Plateau.

Drainage. Only one-third of the Australian land mass drains directly to the ocean, mainly on the coastal side of the Main Divide and inland with the Murray-Darling system. With the exception of the latter, most rivers draining to the ocean are comparatively short and account for the majority of the country's average annual discharge.

The interior lowlands exhibit endoreic drainage patterns and surface drainage is totally absent from some arid areas of low relief.

Climate. Australia's large area (7.7 million square kilometres) and latitudinal range (3,700 kilometres) have resulted in climatic conditions ranging from the alpine to the tropical. Two-thirds of the continent is arid or semi-arid, although good rainfalls (over 800 mm annually) occur in the northern monsoonal belt under the influence of the Australian-Asian monsoon and along the eastern and southern highland regions under the influence of the great atmospheric depressions of the Southern Ocean. The effectiveness of the rainfall is greatly reduced by marked alternation of wet and dry seasons, unreliability from year to year, high temperatures and high potential evaporation.

Settlement. The availability of water resources controls, to a large degree, the possibility and density of settlement; these, in turn, influence the quality of the water through production and disposal of waste. Most early settlements were established on the basis of reliable surface water supplies and, as a result, Australia's population is concentrated along the coast, mainly in the comparatively fertile, well-watered east, south-east and far south-west.

As settlement spread into the dry inland grazing country, the value of reliable supplies of underground water was realised. Observations of the disappearance of large quantities of the rainfall precipitated on the coastal ranges of eastern Australia eventually led to the discovery of the Great Artesian Basin which has become a major asset to the pastoral industry.

For further information on the influence of water resources on the spread of settlement in Australia *see* Year Book No. 61, page 860.

Surface supplies

Distribution and volume. As described above, permanent rivers and streams flow in only a small part of the continent. The average annual discharge of Australian rivers has been assessed at 343×10^9 cubic metres, of which 157×10^9 cubic metres is measured discharge and the remainder is estimated. This is small in comparison with river flows on other continents. In addition, there is a pronounced concentration of runoff in the summer months in northern Australia while the southern part of the continent has a distinct, if somewhat less marked, winter maximum.

Variability of flow. Even in areas of high rainfall, large variability in flow means that, for local regional development, most streams must be regulated by surface storage. However, in many areas evaporation is so great that storage costs are high in terms of yield. Extreme floods also add greatly to the cost of water storage, because of the need for adequate spillway capacity.

Potential development. Some 85 per cent of all water used in Australia is surface water. This quantity is about 15×10^9 cubic metres a year and represents about 12 per cent of the possible usable surface water available in Australia; it does not include the amount diverted for hydro-electric power generation and other purposes which does not affect the quantity of water available. However, the great variability of river discharge, high evaporation and lack of sites for storage on many catchments limit potential development. As an indication of the severity of the problem, Australia's runoff is estimated at 13 per cent of rainfall compared with 40 per cent in North America and Europe, 36 per cent in South America and Asia and 24 per cent in Africa, with the complementary figure representing the evaporation and transpiration percentage. There is, however, considerable scope for greater efficiency in water use.

Groundwater supplies

Groundwater is more important than surface water in about 60 per cent of the country. Australia's estimated annual groundwater recharge is 72×10^9 cubic metres, and annual groundwater usage is estimated at about 2.3×10^9 cubic metres.

An indication of the variability in quality and quantity of Australia's groundwater resources is given in the map sheets accompanying the Australian Water Resources Council's publication, *Groundwater Resources of Australia* (1975).

Groundwater is divided according to its occurrence in the three main classes of aquifer:

(i) *Shallow unconsolidated sediments* comprise alluvial sediments in river valleys, deltas and basins; aeolian (windblown) sediments which generally occur in coastal areas; and lacustrine (lake) sediments. These sediments are often highly permeable and porous. Permeability and porosity may vary markedly according to orientation. Unconsolidated aquifers of this group generally occur at depths of less than 150 m and are often readily accessible to sources of water for recharge. Marked seasonal variations in water level are common.

(ii) *Sedimentary rocks* are generally made up of consolidated sediments. The aquifers owe their porosity to small voids between the grains which are often well compacted and cemented. They often cover significant areas, being continuous and of appreciable thickness. Rock strata usually dip quite gently. Nevertheless, over the full extent of the larger sedimentary basins, aquifers may reach great depths. Areas where recharge takes place may be small in relation to the extent of the aquifers. Water quality in individual aquifers may be quite good and fairly uniform over large areas. Some sediments contain a number of permeable and impermeable layers, creating a vertical sequence of separate aquifers, and water quality may vary greatly between them.

(iii) *Fractured rocks* comprise hard igneous and metamorphosed rocks which have been subjected to disturbance and deformation. Aquifers resulting from the weathering of any rock type are also included in this group. Water is transmitted mainly through joints, bedding planes, faults, caverns, solution cavities and other spaces in the rock mass.

The quality of groundwater varies considerably and sources are subject to pollution in much the same way as surface supplies. Locally, groundwater has also been polluted by poor drilling techniques which allow contamination of fresh or lower salinity waters by more highly saline waters, and also by the discharge of industries wastes into underground drainage bores. The Port Phillip Basin has the problem of discharge of industrial and domestic waste underground, and in the Western Port Basin there has been control of groundwater withdrawal since 1968 to prevent overdraft and saltwater intrusion.

An Australian School of Drilling has been established under the auspices of the National Training Council to improve the skills of the water drillers.

For further details on the sources of groundwater and a table of the principal water-bearing basins in Australia, see Year Book No. 61, pages 865–6. A map showing the extent of known artesian basins throughout Australia is shown on page 273 of Year Book No. 48.

Drainage divisions and the use of surface and groundwaters

Groundwater and surface water have, in the past, tended to be viewed as separate resources because of their modes of occurrence, assessment and development. They are complementary components of the hydrologic cycle and in any assessment of the water resources of a region are not necessarily additive.

To promote a unified approach, river basins or groups of river basins have been adopted as the primary units of assessment. The *Review of Australia's Water Resources 1975* (Department of National Development and Energy, Australian Water Resources Council, Canberra) contains a summary of the 244 river basins grouped into twelve divisions, together with a map showing the divisions. (See below.)

The conjunctive approach to water resources, even to importing water from outside the region, generally makes more water available for use than would be the case with independent use of the various sources. Year Book No. 61, pages 867–8 contains details of the conjunctive use of surface and groundwaters.



AUSTRALIA: DRAINAGE DIVISIONS

The map shows the drainage divisions (grouping of river basins) adopted by the Australian Water Resources Council.

Published in *Review of Australia's Water Resources, 1975*.

PLATE 39

In the *Review of Australia's Water Resources, 1975* an attempt was made to assess the possible exploitable yield of surface water for each river basin (aggregating to Drainage Divisions) at the point of lowest practical downstream development, using the type of hydraulic structure considered technically feasible by the governments. These estimates take into account average annual flow, variability of flow, water quality and the availability of suitable sites for storage, but do not take into account economic factors.

The total annual commitment of surface water is about 30×10^9 cubic metres, which represents 24 per cent of the possible exploitable yield but only 8.6 per cent of the total runoff of Australian streams. The reasons for this low overall commitment are:

- economic resources are not fully developed.
- potential developments, while technically feasible, are expensive due to topographic and climatic limitations.
- bulk of surface water resources are remote from centres of population.

Surface water resources are developed for consumptive or non-consumptive uses. Consumptive use refers to domestic, industrial and agricultural uses and involves the removal of water from the stock of usable resources. The commitments for the table below are mostly for consumptive use in irrigation. Non-consumptive use comprises instream use of water and includes hydro-electric power generation, recreation and transportation.

AN ASSESSMENT OF THE POSSIBLE YIELD OF SURFACE WATER BY DRAINAGE DIVISION

(Source: Review of Australia's Water Resources, 1975)

Drainage division	Adopted drainage area	Average annual discharge (a)	Annual commitments(a)			Possible exploitable yield	Commit- ments as a percent- age of exploitable yield	Estimated total yield of drainage area	Possible exploitable yield as percent- age of total yield
			Present	Authorised and planned	Total				
	mil ha		—mil. cubic metres—				%	mil. cu. m.	%
I North-East Coast	45	82,500	2,595	761	3,356	25,566	13	75,620	34
II South-East Coast	27	39,396	2,658	1,287	3,945	(b) 15,992	24	37,499	43
III Tasmania	7	49,799	1,722	73	1,795	35,495	5	49,799	71
IV Murray-Darling	106	22,261	15,941	793	16,734	18,372	91	22,204	83
V South Australian Gulf . .	8	980	135	38	173	283	61	913	31
VI South-West Coast	31	7,290	343	27	370	1,841	20	4,935	37
VII Indian Ocean	52	4,160	—	75	75	490	15	3,815	13
VIII Timor Sea	55	74,260	3,083	45	3,128	16,423	19	74,260	22
IX Gulf of Carpentaria . . .	64	58,230	76	86	162	10,094	2	49,180	21
X Lake Eyre	117	3,260	9	—	9	129	7	3,180	4
XI Bulloo-Bancannia	10	540	3	—	3	n.a.	n.a.	540	n.a.
XII Western Plateau	246	—	—	—	—	—	—	—	—
Australia	768	342,676	26,565	3,185	29,750	124,685	24	321,945	39

(a) Includes fresh and marginal water but excludes brackish and saline water.

(b) Includes a small amount of brackish water.

Groundwater is an important substitute for surface water in many parts of the country such as in the arid interior where the Great Artesian Basin provides the only reliable continuous supply of water for stock and domestic purposes. This Basin underlies 23 per cent of the continent and some 30,000 holes have been drilled, about 2,900 of which are still flowing. The high ratio of sodium to calcium and magnesium ions has an adverse effect on soil structure, rendering it impervious and generally unsuitable for irrigation.

Groundwater is increasing in importance as a source of water for irrigation, industry and domestic supply. There are many areas of intensive groundwater development which, although small, accounted for over a third of all groundwater withdrawals in 1975. The areas shown in the table below rely almost exclusively on groundwater from unconsolidated sediments.

Increasing use is made of conjunctive schemes, for example, where groundwater supplies are tapped to augment surface water or where, as in the Burdekin Delta, groundwater aquifers are artificially recharged during the summer wet season to enable water to be stored at low cost with negligible evaporation.

AREAS OF CONCENTRATED GROUNDWATER USAGE IN AUSTRALIA

(Source: Review of Australia's Water Resources, 1975)

Area	Quantity	Use
	mil. cu m/year	
Burdekin Delta (Queensland)	320	Irrigation of sugar cane
Namoi Valley (New South Wales)	108	Irrigation of small crops, including cotton
Condamine Valley (Queensland)	100	Irrigation of grain crops
Southeastern South Australia (a)	98	Irrigation, town supplies and industry
Bundaberg (Queensland)	94	Irrigation of sugar cane, industrial and domestic use
Lockyer Valley (Queensland)	70	Irrigation of small crops and fodder
Perth (Western Australia)	66	Irrigation of market gardens, domestic gardens and urban water supply
Hunter Valley (New South Wales)	53	Irrigation of small crops
Callide Valley (Queensland)	35	Irrigation of fodder and grain crops
Tomago Sands (New South Wales)	31	Urban water supply and industrial use
Pioneer Valley (Queensland)	31	Irrigation of sugar cane and domestic use
North Adelaide Plains (South Australia) (a)	21	Irrigation of market gardens
Botany Sands (New South Wales)	20	Industrial use
<i>Sub-total</i>	<i>1,047</i>	
Estimated total groundwater usage	2,300	

(a) Includes some water from limestone aquifers.

Major dams and reservoirs

A map entitled *Australia—Dams and Storages*, published in 1975 by the Department of Minerals and Energy (now the Department of National Development and Energy), shows the location, height of dam wall, capacity and purpose of Australia's major dams and water storages.

The table below lists major dams and reservoirs by State. It should be noted that the Hume Reservoir lies on the New South Wales-Victoria border.

MAJOR DAMS AND RESERVOIRS IN AUSTRALIA

Name and year of completion	Location	Gross capacity (million cubic metres) (a)	Height of wall (metres) (b)	Purpose
NEW SOUTH WALES				
Eucumbene (1958)	Eucumbene River	4,807	116	Part of Snowy Mountains H/E Scheme
Hume (1936, 1961)	Murray River, near Albury	3,038	51	Irrigation, water supply, H/E
Warragamba (1960)	Warragamba River	2,057	137	Water supply for Sydney, H/E
Menindee Lakes (1960)	Darling River, near Menindee	1,794	18	Conservation, storage for Murray River Agreement
Burrendong (1967)	Macquarie River, near Wellington	1,677	76	Conservation, FC, water supply
Blowering (1968)	Tumut River	1,628	112	H/E, irrigation
Copeton (1976)	Gwydir River	1,364	113	Irrigation
Wyangala (1936, 1971)	Lachlan River	1,220	85	Irrigation, stock, etc.
Burrinjuck (1927, 1956)	Murrumbidgee River	1,026	79	Irrigation, H/E
Talbingo (1971)	Tumut River	921	162	H/E
Jindabyne (1967)	Snowy River	688	72	H/E
Lake Victoria (1928)	Murray River, near S.A. border	680	—	Conserves supplies for S.A.
Keepit (1960)	Namoi River, near Gunnedah	423	55	Conservation, irrigation, H/E
Glenbawn (1958)	Hunter River, near Scone	360	78	Conservation, irrigation, FC
Tantangara (1960)	Murrumbidgee River	254	45	H/E
Avon (1927)	Avon River	214	72	Water supply for Sydney
Googong (1978)	Queanbeyan River	125	59	Water supply for Canberra-Queanbeyan
VICTORIA				
Dartmouth (1979)	Mitta Mitta River	4,000	180	Irrigation storage, H/E
Eildon (1927, 1955)	Upper Goulburn River	3,392	79	Irrigation, H/E
Waranga (1910)	Near Rushworth (Swamp)	411	12	Irrigation
Mokoan (1971)	Winton Swamp, near Benalla	365	10	Irrigation
Rocklands (1953)	Glenelg River	336	28	Domestic and stock water supply
Eppalock (1964)	Campaspe River	312	45	Irrigation, water supply
Cardinia (1973)	Cardinia Creek, near Emerald	287	79	Water supply for Melbourne
Upper Yarra (1957)	Yarra River	207	89	Water supply for Melbourne
Glenmaggie (1927, 1958)	Macalister River	190	37	Irrigation
QUEENSLAND				
Fairbairn (1972)	Nogoa River, central Qld	1,440	49	Irrigation, industrial
Somerset (1959)	Stanley River	893	50	Water supply for Brisbane, H/E
Fred Haigh (1975)	Kolan River, near Gin Gin	586	52	Irrigation
Ross River (1974)	Near Townsville	417	35	FC, water supply
Tinaroo Falls (1958)	Barron River	407	47	Irrigation, H/E
Glenlyon (1976)	Pike Creek, near Stanthorpe	261	62	Irrigation
Wuruma (1968)	Nogo River, near Eidsvold	194	46	Irrigation
Koomboooloomba (1961)	Tully River	180	52	H/E, irrigation
Julius (1977)	Leichhardt River, near Mt Isa	127	35	Water supply, mining
Eungella (1969)	Broken River	131	46	Irrigation, industrial, mining, water supply
Beardmore (1972)	Balonne River	101	15	Irrigation, water supply
WESTERN AUSTRALIA				
Lake Argyle (Ord) (1971)	Ord River, near Wyndham	5,720	99	Irrigation, FC, H/E
South Dandalup (1973)	Near Mandurah	208	41	Water supply for Perth
Wellington (1933, 1944, 1960)	Collie River	185	37	Irrigation, water supply
Serpentine (1961)	Serpentine River	178	55	Water supply for Perth

For footnotes see end of table

MAJOR DAMS AND RESERVOIRS IN AUSTRALIA—continued

Name and year of completion	Location	Gross capacity (million cubic metres) (a)	Height of wall (metres) (b)	Purpose
TASMANIA				
Lakes Gordon and Pedder (1974) —				
Gordon	South West	11,671	140	H/E
Scotts Peak		2,960	43	
Serpentine			38	
Edgar			17	
Miena (1967)	Great Lake	2,390	18	Storage for H/E
Lake St Clair (1938)	Central Plateau	2,000 (est.)	3	Natural storage for H/E
Lake Echo (1956)	Lake Echo	725	19	H/E
Lake King William (Clark) (1949, 1966)	Derwent River	541	73	H/E
Arthur's Lake (1965)	Source of Lake River, near Great Lake	511	17	H/E
Devils Gate (1969)	Forth River, near Devonport	180	84	H/E
Rowallan (1967)	Mersey River	131	43	H/E
NORTHERN TERRITORY				
Darwin River (1972)	Darwin River	259	31	Water supply for Darwin

(a) Includes 'dead water', i.e., water below the operational outlet of the reservoir. (b) As a general rule, the figures shown for height of wall refer to the vertical distance measured from the lowest point of the general foundation to the crest of the dam, i.e., the level of the roadway or walkway on the dam.

ABBREVIATIONS: H/E—hydro-electricity, FC—Flood control and/or mitigation.

MAJOR DAMS AND RESERVOIRS UNDER CONSTRUCTION OR PROJECTED

Name	Location	Gross capacity (million cubic metres) (a)	Height of wall (metres) (b)	Purpose
UNDER CONSTRUCTION				
Wivenhoe	Brisbane River, near Fernvale, Qld	1,150	58	Water supply, FC, H/E
Thomson	Thomson River, near Erica, Vic.	1,110	160	Water supply, irrigation
Glennies Creek	Hunter Valley, near Singleton, N.S.W.	284	67	Industrial, irrigation stock and domestic water supply
Boondooma	Boyne River, near Proston, Qld	212	50	H/E, Irrigation
Tanjil (Blue Rock)	Tanjil River, near Willow Grove, Vic.	200	75	Cooling water (power)
Tallowa (Lake Yarrunga)	Confluence of Shoalhaven, Kangaroo Rivers, N.S.W.	135	43	Water supply
PROJECTED				
Burdekin Falls Dam	Burdekin River, Qld	1,750	68	Irrigation
Mackintosh	Mackintosh River, Tullibardine River, near Queenstown, Tas.	922	77	H/E
Lower Pieman	Pieman River, near Queenstown, Tas.	641	24	
Split Rock	Manilla River, Namoi Valley, N.S.W.	370	120	H/E
Windamere	Cudgegong River, near Mudgee, N.S.W.	353	64	Irrigation
Gunpowder	Gunpowder Creek, near Mount Isa, Qld	141	69	Irrigation
Spencer	Denison Creek, near Nebo, Qld	127	44	Mining, water supply
Bastyan (Lake Rosebery)	Pieman River, near Queenstown, Tas.	124	24	Mining, water supply
			74	H/E

For footnotes and abbreviations see previous table.

The following table summarises dams and storages existing and under construction in each drainage division according to purpose, capacity and regulated discharge. Three storages counted as mainly for hydro-electricity in the South-East Coast Division and eight in the Murray-Darling are part of the Snowy Mountains Hydro-electric Scheme which, as a whole, makes a major contribution to irrigation.

LARGE DAMS—NUMBERS EXISTING AND UNDER CONSTRUCTION

(Source: Review of Australia's Water Resources, 1975)

Drainage division(a)	Main purpose					Total capacity	Regulated discharge
	Total number	Irrigation	Hydro-electricity	Water supply	Flood control, recreation		
						mil. cu. m	mil. cu. m.
I North-East Coast	33	12	1	20	—	4,100	1,300
II South-East Coast	99	5	5	87	2	10,700	2,700
III Tasmania	43	1	31	11	—	19,500	8,700
IV Murray-Darling	104	34	15	53	2	20,700	10,500
V South Australian Gulf	24	—	—	23	1	240	150
VI South-West Coast	24	8	—	15	1	870	360
VII Indian Ocean	1	—	—	1	—	(b)	(b)
VIII Timor Sea	8	5	—	3	—	6,100	1,900
IX Gulf of Carpentaria	4	—	—	4	—	140	10
X Lake Eyre	2	1	—	1	—	(b)	(b)
Australia	342	66	52	218	6	62,350	25,620

(a) Divisions XI and XII are not represented. (b) Negligible.

NOTE: 1. Although most dams are used for water supply, the greatest volume of water is reserved for irrigation.

2. 'Total capacity' of storages is not the same as 'gross capacity' which includes an estimate for water below the operational outlet of the reservoir.

Water quality

Water quality is an important factor in determining the potential use of a particular water resource. Its management is essentially aimed at maintaining each resource in a condition suitable for the beneficial use or uses considered appropriate by the community.

Quality of water may be highly variable over time. Runoff resulting from rainfall may pick up a whole range of contaminants in passing over and through the soil; evaporation results in the concentration of these dissolved solids while, on the other hand, storm waters can dilute the concentration of pollutants. Water quality, while being generally related to the quantity of flow, may also vary with the depth and breadth of a body of water.

In the long term, land use changes generally affect the quality of groundwater where runoff enters aquifers. For example, the replacement of deep rooted trees in the south-west of Western Australia by shallow rooted grasses for agriculture has disturbed the natural water and salt balance, mobilising salt and increasing stream salinity. About 160,000 hectares of land have been rendered too saline for normal crops and pastures, while water quality in the Wellington Dam storage continues to deteriorate because of this saline inflow, affecting irrigation users downstream as well as urban communities in the Great Southern Towns Water Supply region which rely on this source for domestic water. Elsewhere, salination of non-irrigated land, particularly in Victoria, is increasing mainly as a result of land clearing, and water quality will deteriorate as saline runoff and seepage finds its way into streams.

Although some Australian rivers are naturally saline, the quality of surface water is generally good. However, most types of water pollution experienced in advanced industrial countries also occur in Australia. The main problems relate to sewage, industrial effluents and increasing salinity mainly caused by agricultural activities. In some parts of Australia untreated or inadequately-treated sewage and trade effluents are discharged into inland and coastal streams used for town water supplies. Mining activities cause pollution by the discharge of ore-processing wastes or mine water into streams or by leaching from waste dumps as happened in the Molonglo River in New South Wales where zinc was being leached from tailings and slime dumps at Captains Flat. Remedial work at Captains Flat was undertaken to prevent further erosion and leaching of the waste dumps, and to minimise the flow of mine water discharging through springs into the Molonglo River.

Water supplies to many towns and small settlements throughout Australia are of low quality and can at times exceed the World Health Organisation standards for drinking water. In many cases, relief may be possible through small water treatment plants.

The increasing salinity of the Murray River in recent years is a source of concern as the river is vital for irrigation and domestic water and provides much of Adelaide's water supply. The problem is the increasing amounts of saline surface and underground water discharged from irrigation areas, compounded by concentration through evaporation. This is in addition to the river's quite high natural salt load. Groundwater mounds have progressively built up under some irrigation areas to the point where the water table has reached the root zone in some irrigation areas causing reduced productivity and, where saline, complete barrenness. As the sedimentary beds of the river basin were laid down under a

marine environment, the groundwater is generally saline and, when drainage does return to the river, it carries large amounts of salt. Salinity levels in the river, however, vary seasonally. During periods of low flow or when seepage from the saturated banks returns following prolonged floods, the concentration of salts may increase significantly, approaching the salt susceptibility limits of some crops. Citrus growers in some areas are having to install under-tree sprinkler systems to prevent yield depression, defoliation and other tree damage caused by saline water from overhead sprinklers. Present control measures include the provision of evaporation basins for the disposal of highly saline drainage water and the regulation of river flow to control water quality by dilution.

Salinity and drainage control is expensive and requires a co-ordinated approach. For example, as irrigation area drainage schemes are implemented or extended, additional salt will be added to the river although highly saline drainage water may be disposed of in evaporation basins. New South Wales, Victoria and South Australia, together with the Commonwealth, were involved in a recent study into salinity and drainage problems in the River Murray with a view to developing a co-ordinated action plan. Urgent projects to intercept saline groundwater flows and to lower saline watertables have already commenced under the Commonwealth's National Water Resources Program. A longer term approach, now being considered, is likely to involve engineering works, river management including dilution flows, improved irrigation practices and research. Further, the River Murray Commission has begun to exercise its recently added water quality responsibilities agreed to by governments and this role will no doubt expand in the future.

Water management

Australia's water resources are managed by about 800 irrigation authorities, metropolitan water boards, local government councils and private individuals. State authorities dominate the assessment and control of water resources as, under the Commonwealth Constitution, primary responsibility for management of water rests with the individual State governments. The Commonwealth Government is responsible for matters relating to its Territories, and participates indirectly through financial assistance or directly in the co-ordination or operation of interstate projects through bodies such as the River Murray Commission. In other instances where political boundaries intersect some river basins, co-operation between governments has been necessary to develop resources.

Australia's attitudes to water resources management have changed substantially over the last twenty years. Water management is no longer seen just in terms of storing water and regulating streams for consumptive use, but also in terms of conserving unregulated streams in an unmodified landscape for wild life preservation or recreation purposes or for possible social or economic use by future generations. In addition, agricultural, industrial and urban development has led to greater attention being paid to water quality management.

In October 1975, the Commonwealth and State governments adopted a statement setting out the basic principles and goals underlying a balanced approach to the development and management of water resources in Australia. *See Year Book No. 63, page 340, for further details.*

The development of water resources in the States has an important bearing on the Commonwealth's broad interests in economic management, resource allocation, foreign exchange earnings, distribution of income and related matters. Consequently, the Commonwealth has participated in water resource matters in the States in instances of mutual Commonwealth/States concern or in the national interest. Currently a \$200 million, five year National Water Resources Program, which was announced by the Prime Minister in February 1978, is financially assisting the States in the development, management and assessment of their water resources.

In response to recommendations in a report of a Senate Inquiry into the Commonwealth's role in water resources matters, a Commonwealth Water Policy was announced in March 1979. In co-operation with the States the Commonwealth is seeking to achieve the long-term beneficial use of Australia's water resources. Briefly, the main policy thrusts appropriate to the Commonwealth for this purpose were seen to be:

- ensure, as far as practicable, that water resource difficulties do not constrain national development;
- minimise losses and disruption caused by floods;
- encourage management practices which reverse trends in the deterioration of water quality and associated land resources;
- encourage a comprehensive approach to water/land planning and management;
- encourage the efficient use of water resources;
- encourage the development of financial and cost allocation policies appropriate to changing economic circumstances and community values; and,
- encourage public awareness and involvement in water resource issues.

A number of key water issues relating to the development and management of Australia's water resources are already receiving close attention: others are expected to emerge in the near future. Some relate to water quality, including that resulting from irrigation-induced and dryland salinisation, specific and widespread sources of pollution in both urban and agricultural areas, aquatic weeds, levels of treatment for urban water supplies, and the cost and technology of water re-use.

Water resources readily accessible to centres of demand are already substantially committed, although there is a widespread recognition of the considerable scope which still exists for increased efficiency in the use of existing supplies. However, on a local or regional basis, the availability of adequate water supplies is becoming a key factor in continuing economic development. It appears inevitable that new supplies, in certain situations, will depend on the processing of water resources of marginal quality and waste water to acceptable standards for domestic and industrial use. In turn, this will generate pressures for the development of more advanced water treatment technologies.

Research and continuing assessment of water resources

Australian Water Resources Council (AWRC)

A widening awareness of the need for a co-ordinated Australian approach to water utilisation led to the formation in 1962 of the Australian Water Resources Council by joint action of the Commonwealth and State governments. The Council comprises the Commonwealth and State Ministers primarily responsible for water resources, with the Commonwealth Minister for National Development and Energy as Chairman, and is serviced by a Standing Committee consisting mainly of the heads of Departments responsible to these Ministers, and by six permanent technical committees.

The objective of the Council is to provide a forum for exchange of views relating to the development of policies, guidelines and programs which may be considered appropriate to assist in the most beneficial and orderly assessment, development and management of Australia's water resources.

See Year Book No. 61, page 869 for further details on the work of the AWRC.

Water resources research

Comprehensive programs of research and investigation are being pursued by State water and agricultural authorities, the Commonwealth Scientific and Industrial Research Organization (CSIRO) and the Australian Water Resources Council, often in collaboration. The Commonwealth Water Research Fund was established in 1968 to provide support for a research program developed through the Australian Water Resources Council. The Fund is administered by the Department of National Development and Energy. The program covers fundamental and applied research into all aspects of water resources with the aim of providing a better basis for the assessment, planning, development and management of Australia's water resources. It complements research work being carried out by the government agencies, universities and other organisations and, in general, is used to stimulate new work not handled within existing programs. The program for the current 1980-83 program is diverse with emphasis on floodplain management, water storage management, nonpoint sources of pollution, salinity, waste disposal and reuse, drinking water quality, aquatic biology, groundwater, evapotranspiration and new instruments and techniques.

Water research by the CSIRO can be grouped under the following broad headings:

Catchment hydrology, underground water and water quality. Included in this area are studies aimed at identifying the relationships which exist between the characteristics of a regional landscape, such as its vegetation, slope, soil and morphology, and the associated climate and hydrology. An understanding of these relationships is essential to enable us to assess the likely consequences of changes in land use. For example, the mathematical models being developed as part of this research can be of assistance in predicting the changes which occur when rural areas become urbanised and in the design of the associated drainage systems.

Studies are also being conducted to help determine the occurrence, distribution and environmental significance of pollutants, such as heavy metals, in water, sediments and the biota which result from agricultural, industrial and mining operations.

Effects of plant communities on water quantity and quality. Changes in the type of vegetation resulting from man's use of the land may have substantial effects on both the quality and quantity of water flowing from the landscape. For this reason, research into the structure and dynamics of Australian plant communities is being undertaken to assist in their management as natural, agricultural, forestry and recreational resources in relation to water resources management.

Studies are also being conducted into the effects of clearing land (and its use for agricultural and pastoral purposes) on the increase in nutrient concentrations and the salinity of streams and underground water.

In addition, research is being undertaken into the ecology of aquatic weeds, particularly those of irrigation channels, so that a program of management may be devised. This work includes investigating the behaviour of herbicides used in weed control and their persistence in water, soil and irrigated crops.

Water purification and effluent treatment. The aim of this research is to extend Australia's limited water resources by the development of purification and recycling technology based on specially designed polymers. A notable recent development in this field is the establishment of a National Water Treatment System Development Centre in Western Australia to evaluate three new water treatment processes for the removal of chemical impurities—SIROFLOC, SIROTHERM and Magnetic Dealkalisation. The technology has been developed in association with ICI Australia.

Research is also being directed to improving methods of treating sewage, and developing techniques for reducing pollution due to industrial effluents.

International aspects

International water organisations

Australia liaises with international bodies and United Nations agencies concerned with water resources and participates in their activities in various ways.

Organisation for Economic Co-operation and Development (OECD). Australia's membership of the OECD since 1970 has involved participation in the work of the Water Management Group which investigates and rationalises problems which are the subject of international concern, and develops strategies—economic, legal and technical—which might resolve them.

United Nations Educational, Scientific and Cultural Organization (UNESCO). The International Hydrological Decade (IHD) (1965–1974) was a period in which participating countries implemented an international program designed to advance the science and practice of hydrology. Following the conclusion of the IHD, an International Hydrology Program (IHP) was commenced and an Australian UNESCO Committee for the IHP (AUCIHP) was formed to co-ordinate Australian input to the IHP.

World Meteorological Organization (WMO). A Commission on Hydrology has recently strengthened its role in operational hydrology. There is an Advisory Committee on Operational Hydrology on which Australia and the Philippines are represented on behalf of the WMO Regional Association V (S.E. Asia) and has established the Operational Hydrology program. Within this program is the Hydrological Operational Multipurpose Subprogram (HOMS) involving the transfer of hydrological technology among member nations. In Australia, hydrological activities and meteorological activities relative to water resources are co-ordinated by the Australian Water Resources Council.

Economic and Social Commission for Asia and the Pacific (ESCAP). This Commission, through its committee on Natural Resources, reports on water policy issues in addition to other activities. By participation in this conference and in seminars arranged on selected topics, Australia contributes to, and benefits from, identification of the main problems of water resources management in a densely populated, developing region.

United Nations Environment Program (UNEP). Australia participates in a world registry of major rivers covering discharge and pollutants and of clean rivers so defined and in the development of methodology for analysis and planning of water resources management.

World Health Organisation (WHO). Australia is participating in the water quality monitoring component of the WHO Global Environmental Monitoring System (GEMS) which will provide a consistent global overview of changes in water quality.

National and interstate agreements

In the section on *Water Management* above, reference was made to the responsibilities of government on the national, state and local authority levels. In this section, some additional details are provided on their roles in the management of water resources.

The Murray-Darling Drainage Division's surface water resources are the most highly developed in Australia, with 91 per cent of the possible exploitable yield currently committed for use. The Division contains the continent's largest river system which can be divided into three main groups of rivers:

- (a) the Darling River and its tributaries;
- (b) the Murrumbidgee River and its tributaries; and
- (c) the Murray River and its tributaries upstream from the confluence of the Murrumbidgee and the Murray.

The river basins that comprise the area under the control of the River Murray Commission are the nine basins in group (c) above and the three basins adjacent to the lower reaches of the Murray.

River Murray Waters Agreement

The *River Murray Waters Act* 1915 ratified an Agreement between the Commonwealth and the States of New South Wales, Victoria and South Australia. The Commonwealth Department of National Development and Energy is responsible for the Commonwealth's interest under the Act. Year Books prior to No. 39 contain a number of summaries of the historical events leading to the Agreement of 1914 which provided for a minimum quantity of water to pass to South Australia. Further details on the River Murray Waters Agreement and subsequent amendments may be found in Year Book No. 61, pages 870–2.

The River Murray Commission, established in 1917 to give effect to the Agreement and representative of each of the four Governments, is responsible for the management of the flow of water in the River Murray, the construction, maintenance and operation of storages and other regulatory works to make water available for irrigation, navigation, and urban purposes; and for the allocation of water between the three States. Dartmouth Dam—a major project of the River Murray Commission and the fourth largest water storage in Australia, was completed in November 1979. The reservoir has been storing water since November 1977.

Dartmouth and Hume Reservoirs together with Lake Victoria and the Menindee Lakes storages, are the key storages operated by the River Murray Commission to regulate the River Murray system. A series of weirs along the river provide for irrigation diversions by the three States. The major diversion weir is at Yarrawonga. A number of the weirs have locks to enable navigation of the river to be maintained.

Towards the end of 1976, the four Governments agreed that the River Murray Commission should assume the function of co-ordinating water quality and quantity management of the River Murray to the extent of taking account of water quality in its operations and investigations, monitoring the quality of the river, and being authorised to make representations to the Contracting States on water quality issues. The Governments agreed to give the Commission interim authority in this regard pending the necessary legislative action and formal amendment of the Agreement.

A preliminary draft substitute Agreement has been accepted in principle by the four Governments as a basis for negotiations on a new Agreement.

New South Wales–Queensland Border Rivers Agreement

This agreement came into effect in July 1947 and provided for the construction of a dam and several weirs on the rivers which constitute part of the boundary between the two States. This Act was amended in November 1968 to provide for storages on Pike Creek (Queensland) and the Mole River (New South Wales) and construction of further weirs on the Border Rivers and regulators on effluents of the Border Rivers and works for improvement of flow in streams which intersect the Queensland–New South Wales border west of Mungindi.

Glenlyon Dam on Pike Creek with a storage capacity of 261,000 megalitres was completed in 1976 and seven regulators on the Balonne–Culgoa River System have been constructed.

During 1979–80, works to improve the frequency of flows in the Little Weir River were completed at a cost of \$88,754, repairs to Goondiwindi Weir were completed at a cost of \$87,000 and tenders were called for an ablation block estimated to cost \$49,000 at Glenlyon Dam.

Snowy Mountains Hydro-electric Scheme

This scheme was set up in 1949 by the Snowy Mountains Hydro-electric Power Act. Its prime purpose was to generate large quantities of peak load power and, by diverting the southern-flowing Snowy River through trans-mountain tunnels, to augment the flow of the Murray and Murrumbidgee Rivers to permit continuing expansion of irrigation in the fertile river plains. All storage works are now completed.

Details of the diversions and associated power works, together with details of construction, are given in Chapter 18, Energy.

States and Territories

The foregoing text deals with water conservation and irrigation in Australia generally and with international, national and interstate aspects. The following survey covers the local pattern of water resources and the steps taken by the State Governments to bring about their development. In the various States, water policies tend to assume a distinctive and characteristic pattern closely allied with climatic conditions and specific local needs.

In Victoria, almost every form of water scheme is in operation. In New South Wales, major emphasis at present is on irrigation and stock development in the dry areas along the Murray and Murrumbidgee Rivers, though a substantial scheme of intensive irrigation is being conducted in the

Murrumbidgee Irrigation Area. In Queensland, up to the present, the predominant emphasis has fallen on water (mainly underground sources) for stock and the development of small irrigation schemes in sub-humid and humid areas, principally to stabilise production of such crops as tobacco, sugar, cotton and pastures. Apart from regular irrigation practices along the Murray River, South Australian authorities are vitally concerned with reticulated supplies for rural areas and towns. Western Australia has developed unique rock catchments and piped supplies for agricultural areas and towns in dry districts. Tasmanian interest relates almost exclusively to hydro-electric generation. The Northern Territory is concerned primarily with water supplies for population centres and mining and pastoral industries.

New South Wales

Administration

The Water Resources Commission, New South Wales, is a Statutory Authority formed in 1976 by a reconstitution of the Water Conservation and Irrigation Commission. Administrative authority is vested in the Chief Commissioner, who is assisted by two Commissioners. All three are appointed by the Governor. The operations of the Commission cover water conservation, control of irrigation areas, the establishment, operation and maintenance of works for domestic and stock water supply, irrigation districts, flood control districts, sub-soil drainage districts, constitution of water trusts, the issue of licences for private irrigation, artesian and shallow boring, assistance under the provisions of the farm water supplies scheme, and river improvement works. An important function of the Commission is planning for the co-ordinated development and allocation of the State's water resources. This entails the assessment and projection of demand for all purposes and also involves the quantitative and qualitative assessment of the available resources. Another important planning function relates to flood plain management. The Water Resources Commission Act, 1976, has widened the initiatives which the Commission is able to take in the fields of flood plain management and flood mitigation management. The search for, and surveillance of, groundwater for water supply is another important planning activity.

Under the Water Act, 1912 (as amended) the right to the use and flow, and the control of water in all rivers and lakes which flow through, or past, or are situated within, the land of two or more occupiers, is vested in the Commission for the benefit of the Crown. A system of licences operates for the protection of private works of water conservation, irrigation, water supply, drainage and prevention of inundation.

For particulars of the New South Wales-Queensland Border Rivers Agreement ratified by Acts of both States in 1947, *see* page 367 of this chapter.

Schemes summarised

The bulk of irrigated land is along the Murray and its tributary, the Murrumbidgee. Smaller areas are served by the Wyangala Dam, Lake Cargelligo and Lake Brewster on the Lachlan (a tributary of the Murrumbidgee), by Glenbawn Dam on the Hunter River, by Keepit Dam on the Namoi River, by Burrendong Dam on the Macquarie River, by the Menindee Lakes Storage on the Darling River, by Copeton Dam on the Gwydir River and by Chaffey Dam on the Peel River. None of the other rivers is regulated by large head storages, though weirs and dams have been provided for town supplies, etc. in many places. In addition substantial use is made of artesian and sub-artesian water in pastoral areas.

New South Wales legislation provides for the constitution and control of various schemes having different characteristics and including irrigation areas, irrigation districts, water trust districts, flood control and irrigation districts, and river improvement districts. There are nine irrigation areas, although two of these, Yanco and Mirrool, are generally described under the one heading, namely, the Murrumbidgee Irrigation Area. Others are: Coomealla, Curlwaa, Hay, Tullakool, Buronga, Mallee Cliffs and Coleambally.

A detailed description of the Murrumbidgee Irrigation Area is contained in Year Book No. 61, pages 875-7. The Water Resources Commission controls land transactions and water supplies for the MIA, but has no jurisdiction over land transactions in neighbouring irrigation districts (although it is responsible for the operation and maintenance of the water supply in these areas). The other irrigation areas follow the same administrative pattern as the MIA.

Irrigation districts are set up under the Water Act, 1912 (as amended) for (a) domestic and stock water supply and (b) irrigation. The essential difference between an 'Area' and a 'District' is that, in the case of the former, all the land to be included in the Area is acquired by the Crown and then sub-divided into separate holdings. Within the District, however, existing ownership of land is not disturbed other than to acquire land required for water distribution works. Since the completion of the Hume Reservoir, several such districts have been established along the Murray to utilise the New

South Wales share of the Storage. The schemes are based on 'extensive' irrigation, that is, water rights are allotted to holdings on the basis that only a portion of each holding will be irrigated, but additional water, when available, may be obtained by landholders. 'Water right' is the annual quantity that will cover 1 hectare to a depth of 100 mm.

The Water Act, 1912 (as amended) provides for the constitution of Trust Districts for domestic and stock water and irrigation, and empowers the Commission to construct, acquire or utilise necessary works. When the works are completed, they are handed over to trustees to administer. The trustees are elected by the occupiers of the land and act with a representative of the Commission. They are empowered to levy and collect rates covering the cost of the works repayable to the Crown by instalments and also the cost of operation and maintenance of the works. The rates are struck according to the area of land which benefits.

Irrigation Trusts are established under the same Act and are administered by trustees in a similar way. There are seven of these trusts.

The Lowbidgee Flood Control and Irrigation District, the first of its kind, was constituted in 1945. Its purpose is to provide flood irrigation for pasture lands on the lower Murrumbidgee by water diverted from the Maude and Redbank Weirs. Another district, Medgun, near Moree in the north-west, is also in operation.

Future program

The program of development in hand includes the provision of additional dams, storages, weirs, flood mitigation and drainage schemes and stream improvement works. Chaffey Dam on the Peel River and Balranald Weir on the Murrumbidgee River were completed in 1979, and an extensive system of weirs was completed in the Gwydir Valley. Glennies Creek Dam in the Hunter Valley, Windamere Dam on the Cudgegong River, Cudal Dam on Boree Creek and Split Rock Dam on the Manilla River have either been commenced or authorised for construction. Other major works nearing completion include the reconstruction of Yanco Weir and the construction of Tombullen Storage, both on the Murrumbidgee River.

Surface and sub-surface drainage schemes have been commenced in three locations in the Murray Valley to alleviate rising groundwater and salinity problems. New weirs are proposed for the Darling River near Bourke, the Macquarie River at Narromine, the Murrumbidgee River near Hay, and on the Bogan River. An off-river storage is proposed for Lake Mejum in the Murrumbidgee Valley.

Preliminary water resources development plans are being drawn up for all major river valleys in New South Wales as the basis for preparation of a State Water Plan. Investigations are continually being carried out to identify additional projects which should be implemented as funds become available.

For more detailed information on Water Resources in New South Wales see the chapter entitled *Physical Development* in the latest edition of the New South Wales Official Year Book.

Victoria

Administration

Victorian Governments have been active in the development of country water supplies since the 1860's when major works to supply the Bendigo goldfields were undertaken. Local trusts to construct and operate waterworks under Government supervision were provided for in the *Water Conservation Act* 1881. Development under the trust system was greatly stimulated by the *Irrigation Act* 1886, which provided for the construction of national headworks by the State, and vested in the Crown the right to the use and control of all surface waters. By 1900 there were 33 irrigation trusts and 18 other rural water supply trusts, but the system of local control was then breaking down under financial difficulties.

The *Water Act* 1905 established the State Rivers and Water Supply Commission to take over the Irrigation Trust districts (except the still-existing First Mildura Irrigation Trust) and to exercise the State's functions in the further control and development of surface waters outside the metropolis. The Commission now supervises all private diversions from streams and directly administers irrigation districts, rural waterworks and urban districts, flood protection districts and urban water supplies. It also supervises the activities of local urban water supply authorities, and local sewerage, river improvement and drainage authorities.

Works summarised

The State Rivers and Water Supply Commission's storages are augmented by Victoria's half share in River Murray Commission storages. Most of the water is for irrigation. However, about one quarter of irrigation production is from lands irrigated by 'private diverters', i.e., irrigators who are authorised to take water from streams, lakes, etc., but who do not come within the boundaries of an irrigation district.

Rural water supply systems

The principal irrigation systems in Victoria are:

- *Goulburn–Campaspe–Loddon*. The main storage is Lake Eildon with a capacity of 3,392 million cubic metres. The main products in these systems are dairy products, fruit, wool and fat lambs. Annual production of deciduous canning fruits in the eastern part of the system is about two-thirds of Australia's total.
- *Murray River System*. The Murray Valley Irrigation Area and the Torrumbarry Irrigation System are irrigated by water diverted at the Yarrawonga and Torrumbarry Weirs respectively. These areas are devoted mainly to dairying, fat lambs and canning fruit (Murray Valley) and dairying, fat lambs, vineyards, orchards and market gardens (Swan Hill). Downstream from Swan Hill, the First Mildura Irrigation Trust and four Commission Districts are supplied by pumping and produce mainly dried vine fruit, citrus fruits, and table and wine grapes.
- *Southern Systems*. The Maffra–Sale–Central Gippsland district, supplied from the Macalister River and regulated by Lake Glenmaggie, is devoted mainly to dairying.
- *Werribee and Bacchus Marsh*. These districts produce fresh fruit, vegetables and dairy products mainly for the local domestic market. Irrigation is supplied from the Werribee River system which is regulated by three main storages, viz. Pykes Creek, Melton Reservoir and Lake Merrimu.
- *Wimmera–Mallee Domestic and Stock Supply System*. Storages in the Grampian Ranges ensure farm water supplies over the riverless pastoral and cereal lands to the Murray. Without this supply, occupation of the region would be extremely hazardous. There are small areas of irrigation supplied from this system near Horsham and Murtoa.

Future Programs

The Victorian Water Commission's program of capital works continues to emphasise an increasing proportion of expenditure on urban water services, including waste water treatment and disposal, water quality and works to protect the water environment from the adverse effects of land and water use.

The program also reflects national policy in budgetary constraints on works programs in the public sector, and an increasing requirement for justifiable economic viability.

Major provisions in the program include—

- the continuation of a construction program of major water conservation dams for urban, industrial and irrigation supply;
- construction of further within-system storage in the Bendigo area and development of proposals to augment supply to Geelong;
- the construction of large trunk pipelines to augment supply to and to enhance the operating capabilities of the Mornington Peninsula water supply system;
- further development of country water supply and sewerage facilities;
- continuation of works to divert salt from drainage flows in the Kerang Region to evaporative areas;
- the continuation of surface drainage programs in the Northern Irrigation Districts.

For more detailed information on Water Resources in Victoria see the chapter entitled *Water Resources and Sewerage* in the latest edition of the Victoria Year Book.

Queensland

Administration

The important primary industries of Queensland are subject to relatively frequent and serious losses by either drought or extensive flooding.

The right to the use and flow and to the control of water in watercourses, lakes, springs and artesian wells is vested in the Crown, and the Commissioner of Water Resources is authorised to take measures to conserve water and provide for its more equal distribution and beneficial use. Under the *Water Resources Administration Act 1978*, he is required to (a) prepare a complete description of the natural water resources of the State, both surface and underground, (b) make and keep a record of all the natural water resources of the State, both surface and underground, (c) evaluate the present and future water requirements in the State, (d) plan the development of the water of the State, (e) take such steps as he thinks fit to protect the water resources of the State from anything detrimental to their quality or that results in or is likely to result in a diminution in their quantity, (f) investigate and survey any natural water resource, surface or underground, (g) co-ordinate the investigation, evaluation and development of plans for control of flood waters and mitigation of flood damage, (h) construct works for the conservation, replenishment, utilisation or distribution of the waters of the State, (i) manage

water conservation, water supply and irrigation undertakings established under any Act of the State. As required under the *Water Act* 1926-79, and the *Irrigation Act* 1922-1979, rights to underground and surface water are allocated and their use is controlled by a system of licensing of all artesian bores and sub-artesian bores in areas proclaimed by the Governor in Council and all conservation and use (other than for stock and domestic supplies) of flow in watercourses. The Commission is required to control use to share supplies as equitably as possible in periods of shortage of supply.

The Commissioner is required to prepare a co-ordinated program of work for the conservation, utilisation and distribution of water resources, and to make recommendations to the Government regarding the carrying out of works in this program. He is principally responsible for water conservation and supply works for rural purposes, including irrigation, stock and domestic supply. In planning such storages, economies to all users are accrued by providing, where possible, for dual or multi-purpose use of works for irrigation, rural, urban and industrial uses including power generation and mining purposes.

Summary of schemes

Unlike other States, the greater part of the area irrigated in Queensland is by individual private pumping plants taking supply from streams or underground sources, spread widely through the State, rather than in constituted irrigation areas where supply is provided by channel systems delivering water to farms. Because of the predominance of irrigation by private diversion pumping, most of the storages are used to release water downstream to maintain supplies for such purposes. In 1978-79 a total of some 209,200 hectares were irrigated.

SOURCES OF IRRIGATION WATER, 1978-79

Source of supply	Area irrigated	Percentage of total area irrigated
	('000 hectares)	%
Underground supplies (a)	109.5	52
Surface supplies—		
State irrigation schemes	40.2	19
Rivers, creeks, lakes etc. (b)	41.7	20
Farm dams	17.7	8
Total	99.6	48
Town or country reticulated water supply	0.1	..
Total, all sources	209.2	100

(a) Naturally or artificially replenished.

(b) Includes regulated and unregulated streams.

Irrigation areas

About 25 per cent of the area under irrigation annually, ie some 52,000 hectares, is concentrated in six established Irrigation Areas constituted under the *Irrigation Act* 1922-1979, where the supply is generally reticulated by channel systems (by means of gravity or by pumping) from the storage. In addition, some supply is also provided from streams regulated by the storage. A summary is set out on next page; further details are shown on page 883 of Year Book No. 61.

<i>Irrigation areas</i>	<i>Comments</i>
Dawson Valley	Around Theodore on Dawson River; cotton, graincrops and urban usage in Theodore and Moura.
Burdekin River	Complex system of conservation, irrigation, industrial and other uses; sugar cane, rice, seed and small crops; artificial recharging of underground water supplies from unregulated flows (Burdekin River)
Mareebah-Dimbulah	Hinterland of Cairns; tobacco, rice, peanuts and urban/hydro-electric uses; Tinnaroo Falls Dam.
St George	Balonne River; cotton, soya beans and cereals, and urban uses; Beardmore Dam.
Emerald	Joint Federal-State undertaking based on State's largest storage—Fairbairn Dam; industrial and urban use, irrigation of cotton, soya beans and cereals.
Bundaberg	Joint Federal-State undertaking; sugar, tobacco and small crops and urban supplies for Bundaberg and adjacent shires; Fred Haigh Dam.
Eton (New)	Hinterland of Mackay; sugar cane and water supply in Mackay area; Kinchant Dam.

A number of other schemes have been established under the *Water Act* 1926–1979, where water from storage is released downstream to maintain adequate supplies for pumping under licence to adjacent lands. Details on these and others currently under construction are in Year Book No. 61, pages 883–4.

Rural, stock and domestic supplies

Improvements to stock and domestic water supplies are assisted by Rural Water Supply Schemes and Bore Water Supply Areas (constituted under the *Water Act*). Investigation, design and administration of these schemes are carried out by the Queensland Water Resources Commission.

Underground water supplies

The availability of underground water, particularly the Great Artesian Basin, has played a major part in the development of the pastoral industry in Queensland. Underground water is also used extensively for irrigation on individual farms, particularly along the coastal fringe, and for domestic purposes. Over half the area irrigated in Queensland receives its supplies from underground sources. In accordance with the requirements of the *Water Resources Administration Act* 1978, the investigation of availability of underground water is being pursued by geological mapping, investigation drilling and hydro-geological assessment. The most important areas where water from this source is used for irrigation are the Burdekin Delta, Condamine Valley, Bundaberg, Lockyer Valley, Callide Valley and Pioneer Valley. The table on page 360 of this chapter provides the quantity and purpose of groundwater usage in these areas.

For more detailed information on Water Resources in Queensland see the chapter entitled *Land Settlement* in the latest edition of the Queensland Year Book.

South Australia

Administration

All major water resources and most public water supply schemes in South Australia are administered by the Engineering and Water Supply Department under the various statutes mentioned below.

- The Waterworks Act, 1932–1977, which empowers the Minister of Water Resources to impound or divert the water from any lake, watercourse or underground source for the purpose of establishing and maintaining public water supply schemes to serve proclaimed water districts throughout the State.
- The Water Conservation Act, 1936–1972, which relates to the provision of small dams, wells, bores and other waterworks to assist development in the more remote areas of the State or to provide water for travellers and travelling stock in such areas.
- The River Murray Waters Act, 1935–1971, which ratifies the River Murray Waters Agreement, and under which the Engineering and Water Supply Department operates and maintains Lake Victoria storage, nine weirs and locks downstream of Wentworth, N.S.W., and barrages at the river mouth.

• The Water Resources Act, 1976–79, which came into force from 1 July, 1976 and superseded the Control of Waters Act, 1919 and the Underground Waters Preservation Act, 1969, represents the culmination of the development of the Government's water resources policy involving the management of all aspects of water—surface and underground, quality and quantity. The Act provides for the control of diversions of surface waters from Proclaimed Watercourses and for the control of the withdrawal of underground waters from Proclaimed Regions. Currently, the River Murray and Little Para River are Proclaimed Watercourses, the Proclaimed Regions being the Northern Adelaide Plains and Padthaway areas. The legislation provides for control over the construction or modification of most categories of wells over the whole State and for the abatement of pollution of all waters. It establishes a South Australian Water Resources Council and Regional Advisory Committees as vehicles for public participation in the water resources management process. Currently, Regional Committees operate in respect of the River Murray, the Northern Adelaide Plains and Little Para River, Padthaway, the North Para River, the Arid Areas and the Angas Braemar Irrigation Area. In addition, the Act provides for a Water Resources Appeal Tribunal to give individuals the opportunity to appeal against decisions of the Minister pursuant to the Act.

Summary of schemes

Australian irrigation originated in the upper Murray in South Australia and the Mildura area of Victoria. South Australian irrigation commenced with an agreement involving the Chaffey brothers in 1887 whereby an area was made available for the establishment of certain irrigation works at Renmark. From this start, government, co-operative and private irrigation areas totalling more than 42,000 hectares have been developed in the South Australian section of the Murray Valley. The authority controlling River Murray irrigation is the Engineering and Water Supply Department which operates under policies determined by the Minister of Water Resources on advice of the S.A. Water Resources Council. The principal high land crops comprise citrus and stone fruits, and vines. The reclaimed swamps along the lower section of the Murray are used almost exclusively for pasture and fodder crops. Vegetable crops of various kinds are important in both types of irrigated lands.

Except for quantities held in various lock pools and natural lakes, no water from the Murray is stored within South Australia for irrigation purposes. Usage of the River is therefore planned on the basis of the minimum monthly flows to which South Australia is entitled under the River Murray Waters Agreement. This factor, plus the need to reserve water for city, town and rural water supply systems, has resulted in the expansion of irrigation from the River being rigidly controlled by the Government. In addition to irrigation from the River Murray there are considerable areas irrigated from underground sources by individual landholders in South Australia. The most important of these areas are the North Adelaide Plains (market gardens) and the Padthaway district of the south-eastern region (pastures, fodder, seed crops and vines).

Adelaide Metropolitan Water Supply

In 1979–80, River Murray pipelines supplied 28 per cent of the total intake to the Metropolitan Adelaide Water Supply System. A maximum of 83 per cent was reached in 1977–78. The principal sources of supply for the ten storages in the Mt Lofty Ranges are the Rivers Onkaparinga, Torrens, South Para, Myponga and Little Para. For details on Adelaide Metropolitan Water Supply, see "Metropolitan Adelaide Water Resources Study", Engineering and Water Supply Department, June 1978.

Country reticulation supplies

A number of reservoirs in the Barossa Ranges and other local sources are augmented by the Morgan-Whyalla, Swan Reach-Stockwell and Tailem Bend-Keith pipelines which provide River Murray water to extensive country areas. A network of branch mains provides the means of conveying water to numerous towns and large areas of farmlands.

Surface and underground resources have been developed to supply most country centres not covered by the larger schemes. Victor Harbor and adjoining south coast resort centres are supplied from reservoirs and the River Murray. A reservoir on Kangaroo Island supplies Kingscote and adjacent farmlands. Underground resources of the lower south-east supply all towns in the region, the city of Mount Gambier and nearby farmlands being reticulated from the well-known Blue Lake. At the far northern opal mining town of Coober Pedy a reverse osmosis desalination plant provides a potable supply from brackish groundwater. Other centres in the far north obtain supplies from the Great Artesian Basin. For details on underground water resources in South Australia see "Underground Water Resources of South Australia", Bulletin No. 48, Department of Mines and Energy, Geological Survey of South Australia, 1978.

South-eastern drainage

A section of the South-East Coast Drainage Division extends into South Australia but has no co-ordinated drainage pattern to form a significant surface water resource. However, high rainfall in the area has led to the natural development of underground resources. Surplus water is not easily disposed of in the valleys and low range terrain, so drainage systems have been undertaken by the Government in co-operation with landholders. For further details see "Environmental Impact Study on the effects of Drainage in the South East of South Australia", Southeastern Drainage Board, June 1980.

Murray River Irrigation Areas

Where irrigation water in excess of plant requirements has been applied, perched water tables develop. Rising to the level of tree roots, these cause the death of orchards from salination and water-logging. Most orchards and vineyards are now drained by plastic and tile drainage systems, thus restoring their health and productivity. At present, disposal of drainage water is achieved by pumping to basins on river flats where it evaporates or is discharged into the river when it is in flood. It may also be discharged into underlying sand and limestone aquifers. The usefulness of these aquifers is declining as they are becoming fully charged with water.

As a result of investigations made into alternative disposal schemes, a package of six salinity control measures has been recommended. The measures combine engineering works, improved irrigation practices, and river regulation to reduce salinity to acceptable levels.

Construction of the Noora Drainage Disposal Scheme has commenced. When completed, the scheme will allow drainage water presently held in river flat basins to be pumped to a large evaporation basin located well out of the river valley, approximately 20 km east of Loxton.

For more detailed information on Water Resources in South Australia see the chapter entitled *Physical Development* in the latest edition of the South Australian Year Book.

Western Australia

Administration

The Minister for Works and Water Resources administers the departmental irrigation schemes under the *Rights in Water and Irrigation Act, 1914–1978*. He is advised by an Irrigation Commission representing the local irrigationists and government, technical and financial branches. He also administers, under the *Country Areas Water Supply Act, 1947–1979*, the water supplies to certain country towns and reticulated farmland. As Minister for Works he controls minor non-revenue producing supplies to stock routes and a few mines and agricultural areas with their associated communities. A small number of town supplies are administered by local boards under the *Water Boards Act, 1904–1979*, which provides a large degree of autonomy with ultimate Ministerial control.

Irrigation

Irrigation schemes have been established by the Government on the coastal plain south of Perth in the Waroona, Harvey and Collie River and Preston Valley Irrigation Districts between Waroona and Donnybrook, the water being channelled from dams in the adjacent Darling Range. The success of dairying and stock raising and, to a lesser extent, vegetable growing, which have replaced citrus growing, has led to a gradual but substantial extension of irrigation areas in the south-west.

Although not yet comparable in size with the south-west irrigation districts, the irrigation areas at Carnarvon and on the Ord and Fitzroy Rivers in the Timor Sea Drainage Division in the north of the State are of increasing significance.

Since the mid 1930s, a centre of tropical agriculture has been developed at Carnarvon, near the mouth of the Gascoyne River. Initially, the principal source of irrigation water for the 160 plantations was private pumping from the sands of the Gascoyne River. Overpumping by the growers however, resulted in salt intrusion into the fresh water aquifer. Government controls were introduced and a major groundwater supply scheme upstream of the irrigation area has since been commissioned and provides approximately two-thirds of the irrigation water. The area specialises in growing bananas together with out of season vegetables for the Perth market. A tropical research station is maintained at Carnarvon by the Department of Agriculture.

The Ord River Irrigation Project in the Kimberley Division provides for the eventual development of an irrigation area of some 70,000 hectares of land, one third of which is in the Northern Territory. The first stage, in which water was supplied from the Kununurra Diversion Dam (capacity 98.7 mil. cubic metres) to 30 farms averaging 270 hectares plus a 970 hectare pilot farm was completed in 1965. Cotton was the principal crop, with grain sorghum and fodders for cattle fattening also important. Completion in 1971 of the Ord River Dam, which stores 5,720 mil. cubic metres in Lake Argyle, has

allowed expansion of the area to be irrigated into the second stage. Five farms averaging 388 hectares were allocated in 1973. Since then, cotton has been phased out due to high off-farm costs and increasing costs of insect control specific to the cotton industry. A downturn in the Australian beef industry coincided with this and farming activity was reduced. Rice, sunflower, peanuts, grain sorghum and other crops are now showing promise commercially.

The Camballin Irrigation District on the Fitzroy River flood plain in the West Kimberleys is dependent on diverted river flows and a small volume of storage behind the diversion structures on the Fitzroy River and Uralla Creek. Grain and fodder sorghums are the main crops. A significant expansion in activity is expected in future years.

Country water supplies controlled by Department of Public Works

Since 1947 enlargement and extensions of the Goldfields and Agricultural Water Supply and the development of the Great Southern Towns Water Supply have been carried out, mainly in accordance with a project known as the Modified Comprehensive Scheme. Under this scheme water has been supplied to towns and farms in the cereal and sheep districts of the State. Two years after the completion of the 1.7 million hectare scheme in 1961, an extension of 1.5 million hectares was agreed to with Federal-State funding.

Goldfields and Agricultural Water Supply

Water for the Eastern Goldfields is supplied by pipeline from Mundaring Reservoir in the Darling Range. With extension to towns and agricultural areas, the scheme now serves over 110 towns and localities and the water is being reticulated to 2.7 million hectares of farmland.

Great Southern Towns Water Supply

This scheme provides water to towns and localities from Wellington Dam to Narrogin and along the Great Southern Railway from Brookton to Tambellup, supplying 35 towns and localities and being reticulated to 0.6 million hectares of farmland.

Local and Regional Water Supplies

As well as the two major water supply schemes, above, water is also supplied by the Government to 35 towns from Regional Water Supply schemes and to 129 towns from local water supplies from a variety of sources including underground, artificial catchments and stream flow.

Underground water

Considerable use is made of groundwater by individual farmers, pastoralists, market gardeners and others, although the water quality varies from place to place and much of it is too saline for irrigation or even stock purposes. Artesian wells throughout the State and non-artesian wells within 'declared' areas must be licensed under the *Rights in Water and Irrigation Act, 1914–1978*. Industries also use groundwater in substantial quantities, especially in the processing of titanium, iron and alumina, and this demand has intensified the search for groundwater.

For more detailed information on Water Resources in Western Australia see the chapter entitled *Land Tenure and Settlement, Water Supply and Sewerage* in the latest edition of the Western Australian Year Book.

Tasmania

Main purposes of water conservation and utilisation

Because of the generally more adequate rainfall in Tasmania, scarcity of water is not such a problem as it is in most mainland areas, though not all streams are permanently flowing. The only large-scale conservation by reservoirs is for hydro-electric power generation, but there are some moderately-sized dams built by mining and industrial interests and by municipal authorities for town water supplies. 'Run of the river' schemes are quite adequate for assured supply in many municipalities. The main supply for Hobart and adjacent municipalities originates from a 'run of the river' scheme based on the Derwent River. The river is controlled in its upper reaches by eight dams, built for hydro-electric power generation, and these tend to stabilise river flow.

Until a few years ago irrigated areas were negligible except for long established hop fields, but there is a rapidly expanding use of spray irrigation on orchards, pastures, potatoes, beans and peas. Until recent years there has been almost complete dependence on natural stream flows, but the need for some regulating storages has become apparent. Increasingly, farmers are constructing storages of their own and the extension of this practice is foreseen as the logical solution in most areas, as valleys are narrow and steep sided. Single large reservoirs cannot economically serve large areas of suitable land, as nearly every valley is separated from others by pronounced hills, prohibiting the construction of cross-country channels.

Underground water suitable for stock, minor irrigation works and domestic use is exploited in the consolidated rocks of southern, midlands and north-western Tasmania. In the south and midlands, nearly all groundwater is obtained from Permian and Triassic rocks. In the north-west, water is recovered from a variety of rocks ranging from Precambrian dolomites, quartzites and schists to Tertiary basalts and Quaternary sands. The highest yields are obtained from the dolomites and the basalts. In the central north and north-east, unconsolidated Tertiary clays and gravels yield water of variable quality. In some coastal areas, notably King and Flinders Islands, water is obtained from aeolian sands.

The Mines Department is charged with the investigation of underground water resources. There is a great reserve of untapped permanent streams in the western half of the State, which is largely unsettled. The State's largest rivers discharge in the west, but diversion to the eastern half of the watersheds is not regarded as practicable. The Hydro-Electric Commission, however, has planned for the future development of four storage dams in the West Coast region on the Pieman, Murchison and Mackintosh Rivers.

Administration

In Tasmania, water supply was once exclusively the responsibility of local government authorities, but three statutory authorities, the Metropolitan Water Board, the Rivers and Water Supply Commission and the North West Regional Water Authority, now operate bulk supply schemes, piping water for distribution by the local government authorities in the Hobart, Launceston and N.W. Coast regions, and directly to certain industrial consumers. The Board is responsible for the supply of water in the Hobart, Clarence, Glenorchy and Kingborough local government areas, while the Commission exercises a general control over the utilisation of the State's water resources and has specific functions in relation to local government authority water, sewerage and drainage schemes. The Authority controls the supply of water to the municipalities of Circular Head, Wynyard, Penguin, Ulverstone, Devonport, Latrobe and Kentish and the township of Stanley.

Rivers and Water Supply Commission. The Commission is empowered by the *Water Act 1957* to take water at streams and lakes, or to issue others with licences to do so; licensing covers supply to specific industries and municipalities as well as for irrigation. The Commission is concerned with drainage trusts' operations, river improvements (including repairs after flood damage), stream gauging, its own regional water schemes, and with water supply, sewerage and drainage of towns. It operates in a similar manner to the Metropolitan Water Board in controlling the water schemes serving the East Tamar region (North Esk Regional Water Supply), the West Tamar area (West Tamar Water Supply) and the Prosser River Scheme, which was originally constructed to supply water to a sodium alginate industry at Louisville near Orford and to supplement the water supply of the township of Orford. The sodium alginate industry ceased production in December 1973. The North Esk Regional Water Supply was constructed to meet industrial requirements of the alumina refinery and other industries at Bell Bay, and to provide bulk supplies to surrounding municipalities on the eastern bank of the River Tamar and has since been augmented by the construction of a dam on the Curries River to supply the northern end of the Tamar Valley. The West Tamar Water Supply was constructed primarily to meet domestic requirements of urban areas in the Beaconsfield municipality. The local government authorities retain primary responsibility for reticulation and sale to consumers, except to certain industrial users.

In municipalities not serviced by the Metropolitan Water Board, the Rivers and Water Supply Commission or the North West Regional Water Supply Authority, the supply of water is a function of the local municipal council. Where the construction of water and sewerage schemes is beyond the financial capacity of a local government authority, or if it requires assistance to pay for water supplied from regional schemes, the Commission may make recommendations to the Minister for payment of a subsidy.

Irrigation

The Cressy-Longford Irrigation Scheme, officially opened in March 1974, was the first major irrigation project to be established in Tasmania. The source of supply is the tailrace of the Poatina hydro-electric power station from which up to 12 million cubic metres will be available to farmers both inside and outside the irrigation district. Some 9,000 hectares, half of which are watered by gravity, will eventually be irrigated. The scheme services about sixty-five farms within the irrigation district (mostly by the spray sprinkler system), while a further thirty farms on the fringes will benefit from augmented river flows.

The Cressy-Longford Scheme which is operated by the Rivers and Water Supply Commission, and a privately owned scheme at the Lawrenny estate at Ouse, are the only extensive irrigation works in Tasmania. A large portion of the 22,320 irrigated hectares in the State in 1978-79 were watered by private schemes pumping water from natural streams. Approximately 50 per cent of the area was sown and native pastures. Vegetables occupied about 33 per cent, with potatoes responding particularly well to irrigation.

For more detailed information on Water Resources in Tasmania see the chapter entitled *Local Government* in the latest edition of the Tasmanian Year Book.

Northern Territory

Information on climatic conditions can be found in the chapter Climate and Physical Geography of Australia. A brief outline of contour and physical characteristics is in Chapter 27, The Territories of Australia.

Administration

Under the Northern Territory *Control of Waters Ordinance* 1938, control of natural waters is vested in the Crown. Where a watercourse or lake forms a boundary of any land alienated by the Crown, the beds and banks are deemed to remain the property of the Crown (except in special cases). The diversion of water is prohibited except under prescribed conditions. The Act requires that drilling for groundwater be carried out only by drillers who are registered under the Act. Registered drillers are required to provide the Government with information on bores drilled, including the location, depth and size of bore, strata encountered and water produced. In particular areas, described as Water Control Districts, where stricter control is necessary, the construction or use of a well or water bore without a permit can be prohibited.

Under the *Water Supplies Development Act* 1960, any landholder engaged in pastoral or agricultural production may seek information or advice from the Commissioner of Water Development who is appointed under the Act. He may also apply for an advance towards the cost of work proposed to be carried out. The Act also provides for a refund to the landholder of the cost of drilling an unsuccessful bore where the landholder has applied to the Commissioner for advice on its construction and has carried out all drilling operations in accordance with advice given.

The Water Division of the Department of Transport and Works carries out systematic stream gauging, the collection of data relating to the quantity and quality of surface and groundwater, the planning of water use for industrial, irrigation and town water supplies, and flood prevention and control. It also provides a general advisory service to the public on water resources and water conservation by providing information on the geology of the Territory, the prospects of obtaining groundwater, the possible location of bore sites, the method of drilling and equipping bores, stream flows, surveys of dam sites, the design of water supply schemes and reticulation lay-outs, and the chemical and bacteriological quality of water supplies. It is involved in water pollution studies and control, and carries out environmental assessments of water and related developments. The Division administers both of the acts described.

Underground water

For information on underground water resources in the Northern Territory see Year Book No. 55 and earlier issues, and the Australian Water Resources Council's publication, *Groundwater Resources of Australia*, 1972 and *Review of Australia's Water Resources*, 1975.

Of approximately 12,500 bores and wells registered in the Territory up to 30 June 1979, 51 per cent were for pastoral use, 13 per cent were investigation bores, 13 per cent served town and domestic supplies, 5 per cent were for crop use, 4 per cent were used on mining fields, and the remainder for various other uses.

Community water supplies

The largest water conservation projects in the Territory are the Darwin River Dam (259.0 million cubic metres) and the Manton Dam (15.7 million cubic metres) which both serve Darwin with a reticulated water supply. Groundwater from McMinns Lagoon area can be used to augment supply.

Most other towns and communities, including Alice Springs, Tennant Creek, Katherine, Jabiru and Nhulunbuy, are supplied from groundwater.

Investigations are continuing into groundwater supplies for aboriginal communities and irrigation supplies in the Alice Springs District.

Surface water measurement

The hydrological investigations required in the Northern Territory as part of the National Water Resources Assessment Program are being carried out by the Water Division. The program for the Northern Territory includes establishment of base streamgauging stations and pluviographs (automatic rainfall recorders). In particular areas of development where water supply or irrigation proposals require special or extra surface water data, supplementary gauging stations are built to obtain this information. Intensive studies are being undertaken in the Alligator Rivers Region and other mining areas for the collection of both quantitative and qualitative data for environmental and management purposes. The streamgauging network of the Division comprises gauging stations (base gauging and supplementary) and pluviographs. Several other organisations also operate gauging stations and pluviographs in the Northern Territory.

Irrigation for agricultural purposes in the Territory is not extensive, being confined to isolated locations near Darwin, Adelaide River, Coomalie Creek, Daly River, Katherine, Douglas River, Ti Tree and Alice Springs for the purpose of growing fruit, vegetables, fodder crops, pastures and some dairy-ing. Some of this irrigation is carried out using bore water.

Both the Daly and Adelaide Rivers offer considerable potential for the development of either irrigation as hydroelectric schemes if these rivers were regulated. Investigations are being conducted into possible dam sites, agricultural surveys having already been conducted in these regions. There is increasing demand for water resources assessment studies and assistance for relatively small irrigation projects, and for investigation and design of surface water storages for recreational uses, especially in the more arid regions.

Australian Capital Territory

The climate of the Australian Capital Territory is such that annual evaporation exceeds the annual rainfall of about 600 mm. Primary producers have therefore found it necessary to practise water conservation, and to irrigate from groundwater supplies during dry periods.

Surface water

Surface water storages supplying Canberra (population about 228,000) and the city of Queanbeyan (population about 21,000) are located to the south-west and south-east. The storages to the south-west are in the heavily timbered, mountainous Cotter River catchment within the A.C.T., the storages being Corin Dam (75.5 million cubic metres), Bendora Dam (10.7 million cubic metres) and Cotter Dam (4.7 million cubic metres). These storages, can serve a population of 225,000. The storage to the south-east is in New South Wales in the Queanbeyan River catchment on the western slopes of the Great Dividing Range, the storage being Googong Dam (124 million cubic metres). This storage was only recently commissioned and can serve 70,000 people with the current trunk mains and distribution system. The total volume of water in storage at 30 June 1980 was 157 million cubic metres.

The existing storages on the Cotter and Queanbeyan River have an ultimate combined capacity to serve 450,000 persons. The remaining water resource with the A.C.T. is the Gudgenby River which is at present not utilised but has the potential to serve approximately 200,000 persons.

The A.C.T. water supply system is operated by the Department of Housing and Construction. This Department operates a network of stream gauging stations in the A.C.T. to monitor surface water resources. A number of the gauging stations are provided with telemeters which enable the Department to provide a flood warning system in association with the Bureau of Meteorology.

Groundwater

Groundwater in the A.C.T. and environs occurs mainly in fractures in crystalline rock such as granite and volcanic rocks; in folded and fractured slate; and rarely, in solution cavities in limestone. Alluvial aquifers of significance are restricted to the Lake George basin and small areas along mature sections of the Molonglo and Murrumbidgee Rivers. Groundwater has been used in the past by most primary producers to augment surface storage. Groundwater production bores in the A.C.T. have yields ranging between about 0.4 and 20 cubic metres per hour; 3 cubic metres per hour is about the average yield. However, many farm bores have fallen into disuse as a result of the Government's resumption of freehold land within the A.C.T., and because of the rapid expansion of urban growth. The Bureau of Mineral Resources has provided a bore-siting, groundwater-quality and yield-prediction service in and around the A.C.T. since the early 1950's and until 1978 maintained a network of 48 observation bores which were monitored regularly for up to 25 years. Periodic monitoring of the bores recommenced in 1980 as a consequence of greatly increased demand for the Bureau's rural bore siting services during the current drought. Data are now being collected on groundwater occurrences within the A.C.T. and environs for preparation by the Bureau of a 1:100,000 scale hydrogeologic map.

Many bores have been drilled in the Canberra area for determination of ground conditions for specific projects such as dam sites, sewer tunnels, deep foundations for large buildings; disposal of household and industrial wastes, including radioisotopes; monitoring hydrocarbons, pollution of groundwater or for feasibility studies for urban development. These bores are generally monitored for short periods only. Long-term monitoring of water infiltrating from refuse-disposal areas commenced in 1977.

Control of irrigation and farm water supplies is exercised by the Conservation and Agriculture Branch of the Department of the Capital Territory. The Bureau of Mineral Resources of the Department of National Development and Energy provides technical advice to landholders and drilling contractors on groundwater and, occasionally, on runoff.

CHAPTER 16

MINERAL INDUSTRY

GENERAL

Geology and mineral resources

General geology

Most of the western and central part of the Australian continent consists of basement rocks of Precambrian age. Younger Palaeozoic rocks, mostly of geosynclinal origin, form a discontinuous belt several hundred kilometres wide extending from north Queensland to Tasmania. Mesozoic platform sediments form a broad zone separating the Palaeozoic and Precambrian rocks and extending from the Gulf of Carpentaria to central New South Wales. Cainozoic rocks occur mainly in Victoria, south-western New South Wales and southern South Australia, and as residual basalt cappings over extensive areas of the Palaeozoic rocks of eastern Australia.

Economic geology

Minerals of economic significance occur widely throughout the Precambrian and Palaeozoic rocks of the continent. Palaeozoic mineralisation is perhaps more varied, but the Palaeozoic deposits now being worked are in general smaller than those found in Precambrian rocks. Most of Australia's metallic mineral deposits occur within two broad regions: one of Precambrian rocks in the west and central areas of the continent; and one of younger Palaeozoic rocks in the east.

Mineral resources

Australia is self-sufficient in most minerals of economic importance (and much more than self-sufficient in some). Known adequate reserves of minerals with production sufficient for domestic demand and exports include aluminium (bauxite), black coal, copper, gold, iron ore, lead, natural gas, nickel, salt, silver, tin, tungsten, uranium and zinc. Adequate reserves sufficient for domestic demand include clays (except light grade china clay), brown coal, dolomite and felspar.

For further details of principal Australian mineral deposits, and notes on principal mineral resources, *see* Year Book No. 61, pages 925–932.

Administration

All mineral rights in Australia are vested in the Crown except those on land which was granted before the Crown began to reserve mineral rights. In practice, these private mineral rights are important only in the New South Wales coalfields. In the States, these rights are held by the State Governments. On 1 July 1980, executive authority with respect to mining and minerals except in relation to certain prescribed substances within the meaning of the Atomic Energy Act (principally uranium) was transferred from the Commonwealth Government to the Northern Territory Government. Private mineral rights in the Australian Capital Territory are vested in the Commonwealth Government. The Commonwealth Government is able also to influence over-all development and production activity in the mineral industry by virtue of its statutory powers with respect to international trade, customs and excise, taxation, and loan raisings. Certain specially-formed bodies such as the Joint Coal Board and the Australian Atomic Energy Commission have been given administrative responsibility in defined areas.

Control of mining

Each State or Territory has its own mining Acts or Ordinances and regulations governing the prospecting for and working of mineral deposits. These Acts, etc., are similar in principle but different in detail. They all make provision for a miner's right to prospect and for small mining leases for mineral production. The principles embodied were established many years ago when mining operations were generally small scale and labour-intensive. Although amendments have been enacted to modernise the legislation, it is generally inadequate for the large-scale capital-intensive operations often involved with modern mineral development. For this reason a large enterprise may take the course of acquiring mining titles by negotiations with the appropriate Minister for Mines and having the agreed terms and

conditions embodied in an Act of the State Parliament. This method of acquisition has been used in several cases where the leasing company undertook an obligation (such as the erection of a large treatment works) in return for leases over large areas for a long period, and has become more common in recent years (e.g. iron ore in Western Australia, coal and bauxite in Queensland, bauxite in the Northern Territory). Mining legislation enacted in recent years is simpler and more suited to modern conditions.

Control of mineral exploration

This section refers in general to the exploration for all types of mineral deposits in Australia. Additional information relating to the search for petroleum is set out in the following section.

As a result of the introduction of large-scale modern prospecting methods (particularly airborne prospecting), the small prospecting areas referred to in the previous section were found to be unsuitable in some instances, and steps have been taken in the States and Territories to ensure the availability of large areas for prospecting by interested persons. Large areas may be made available by provision within the Mining Acts or Ordinances for the issue of authorities to prospect over an area defined by a written agreement which also sets out provisions as to the amount of money to be spent, methods of prospecting, tenure of the agreement, etc.

The tenure of such areas is limited (usually to one or two years only) and, if renewed for a further period, is only over an area selected from the larger area (usually 50 per cent) as a result of work done during the life of the initial agreement. It does not give the holder any rights over, or authority to prospect on, land already held under a mining title within the agreed area. Unless specifically stated in an agreement, the discovery of minerals, whether inside or outside an area covered by an authority to prospect, gives the discoverer no legal rights except the right to apply for a mining lease over the area in which the discovery was made. Suitable prospects are converted to mining tenements by making application for lease under the appropriate mining Act.

Control of petroleum exploration

On-shore. In Australia, all petroleum is the property of the Crown. Consequently, full control of petroleum mining rights is vested in the Government or Administration of each State or Territory. Any company, organisation or individual proposing to undertake petroleum exploration or development must first satisfy the Government concerned that the necessary financial and technological resources are available to carry out the operation.

There are three main types of petroleum title:

- (a) the permit, covering initial geological, geophysical and exploration drilling;
- (b) the licence (in Victoria only), which covers detailed surveys and drilling; and
- (c) the lease, which covers development operations and production.

Off-shore. Following the enactment of the *Seas and Submerged Lands Act 1973* the High Court confirmed that the Commonwealth has sovereign rights over the resources of the whole of Australia's continental shelf. However in the offshore constitutional settlement between the Commonwealth and the States reached in June 1979, it was agreed that responsibility for administering petroleum exploration and production within the outer boundary of the 3 mile territorial sea should stay with the States, while the Commonwealth should have responsibility for areas beyond.

Amendments to the *Petroleum (Submerged Lands) Act 1967* passed by the Commonwealth Parliament in May 1980 made provision for a Joint Authority for the adjacent area of each State (beyond the 3 mile Territorial Sea limit) consisting of the Commonwealth Minister and the State Minister. The Joint Authorities will be concerned only with major matters arising under the legislation, and in the case of disagreement the view of the Commonwealth Minister will prevail. Day-to-day administration will continue to be in the hands of the State Minister as the Designated Authority and State officials. The amended legislation will be proclaimed to come into effect when complementary State legislation in respect of the 3 mile Territorial Sea, currently in preparation, is enacted. In the meantime administration of offshore petroleum continues to be carried out under the 1967 legislation.

The mining code applicable under the 1967 legislation and the mining code to be applied under the future arrangements provide for a two-stage system of titles: the exploration permit, which covers all forms of exploration including drilling; and the production licence, which covers development and exploration. The sharing of royalty between the State and the Commonwealth Governments is to continue on a 60:40 basis; and any override royalty payments will continue to be retained by the States.

Mineral royalties

The collection by governments of royalties for the production of minerals within their area of authority is an internationally-accepted practice. In Australia, the responsibility for mineral royalties is largely a State concern, and all States currently collect some form of mineral royalty payments.

In recent years there has been an important basic change in the system of establishing royalty commitments, and it is now quite common for State Governments to negotiate special royalty rates with companies which are seeking mineral leases for large scale developments. These royalty rates may vary, depending on whether production is for export or for domestic processing. The rates for a particular mineral may also vary between producers. Important examples of this type of royalty agreement are the iron ore development agreements in Western Australia and coal development agreements in Queensland. Mineral royalties received by Governments in recent years are shown in the following table.

MINERAL ROYALTY RECEIPTS: GOVERNMENTS
(**\$'000**)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
New South Wales(a)	13,496	37,864	32,660	46,354	49,062	35,651
Victoria(b)	23,922	26,657	29,893	32,696	48,446	60,111
Queensland(a)	4,319	34,867	36,753	50,842	53,651	57,981
South Australia	1,944	2,500	2,788	3,346	4,109	4,543
Western Australia	33,615	39,385	43,111	51,638	54,519	57,810
Tasmania	506	342	576	1,496	2,093	2,193
Northern Territory(c)	242	99	545	362	277	120
Commonwealth Government(d)	10,786	12,155	13,440	13,805	23,002	28,031
Total	88,831	153,869	159,766	200,539	235,159	246,440

(a) Includes royalty on sand and gravel from Crown lands. (b) Includes royalty on brown coal paid by State Electricity Commission. (c) Excludes Aboriginal Benefits Trust Fund royalties from mining operations for which details are not available. (d) Includes royalties received under the *Petroleum (Submerged Lands) (Royalty) Act 1967*.

Control of Exports

The Commonwealth Government has constitutional power over exports from Australia. Under the Customs (Prohibited Exports) Regulations exports of nuclear sensitive material, hydrocarbons and certain raw or semi processed minerals are prohibited unless permission is granted by the Minister for Trade and Resources or an authorised person.

The fundamental objectives of the controls are:

- (i) to protect the national interest and ensure fair and reasonable market prices are achieved;
- (ii) to ensure adequate supplies are available for the domestic market;
- (iii) to meet international and strategic obligations; and
- (iv) to ensure the Government's nuclear safeguards and physical protection requirements on exports are met, consistent with Australia's international obligations in relation to uranium and nuclear materials.

Export controls are administered on coal, iron ore, bauxite, alumina, petroleum and petroleum products, tin, salt, uranium and materials of nuclear significance. Controls on tin concentrates are being phased out over calendar years 1980 and 1981, except for International Tin Agreement purposes.

Ores, concentrates, oxides, etc. of nickel, lead, zinc, copper, manganese, tungsten, bismuth and blister and refined copper are subject to blanket approvals.

With regard to mineral sands, approvals to export are freely issued except where the Commonwealth considers there are environmental reasons which would make such exports undesirable. Exports of copper scrap and copper alloy scrap are embargoed and quotas apply to secondary copper ingots and basic shapes made from scrap material. All other minerals are not subject to control.

Joint Coal Board

The Joint Coal Board was established in 1946 under joint legislation of the Commonwealth Government and of the State of New South Wales to carry out special administrative functions in regard to the New South Wales black coal mining industry. In summary, the Board's functions are:

- (i) to ensure that coal is produced in the State of New South Wales in such quantities and with such regularity as will meet requirements throughout Australia and in trade with other countries;
- (ii) to ensure that the coal resources of the State are conserved, developed, worked and used to the best advantage in the public interest;
- (iii) to ensure that coal produced in the State is distributed and used in such manner, quantities, classes and grades, and at such prices as are calculated best to serve the public interest and secure the economical use of coal and the maintenance of essential services and industrial activities; and
- (iv) to promote the welfare of workers engaged in the coal industry in the State.

Queensland Coal Board

The Queensland Coal Board has functions similar to those of the Joint Coal Board. It also carries out research and sampling tests of Queensland coals. It makes funds available to colliery proprietors for equipment and makes grants and/or loans for the provision of amenities for employees and for communities in coal mining districts. The price fixing of coal sold within Queensland is another important function.

Australian Atomic Energy Commission

For details of the functions of the Australian Atomic Energy Commission *see* Chapter 18, Energy.

Government assistance

The Commonwealth Government and the various State Governments provide assistance to the mineral industry in a variety of ways. The main forms of assistance are discussed on the following pages.

Commonwealth Government assistance

Assistance provided by the Commonwealth Government takes the form of income taxation concessions, subsidies, bounties, and technical assistance, mainly through the work of the Bureau of Mineral Resources (BMR) and the Commonwealth Scientific and Industrial Research Organization (CSIRO).

Income taxation concessions. Income derived from mining principally for gold in Australia is exempt from tax. The exemption is also available in respect of income derived from mining principally for gold and copper if the value of the gold obtained is not less than 40 per cent of the value of the total output.

Special deductions for capital expenditure incurred in the discovery and mining of petroleum (including natural gas) are allowable to a petroleum mining enterprise engaged in these operations in Australia. Capital expenditure allowable to petroleum mining enterprises includes, broadly, the costs of exploratory surveys, drilling and well-head plant; plant for the liquefaction of natural gas; and of access roads and expenditure on housing and welfare. The enterprise is entitled to these special deductions against income from any source. While the special deductions for exploration expenditure are deductible immediately against the net income of the enterprise, the deductions for capital expenditure on development are allowable over the life of the oil or gas field or over five years, whichever is less on a reducing balance basis.

An enterprise mining or prospecting for minerals other than petroleum and gold may also be allowed special deductions for capital expenditure. Broadly, allowable capital expenditure includes expenditure on exploration and prospecting; preparation of a site for extractive mining operations; buildings; other improvements and plant necessary for those operations; access roads; certain treatment plant; and housing and welfare.

The allowable capital expenditure of a general mining enterprise, other than costs of exploration, may be deducted against income from any source over the life of the mine, or over five years, whichever is the less. Expenditure incurred by a mining enterprise in exploring for general minerals is allowable as an immediate deduction against net income derived from mining operations. Annual deductions for depreciation on petroleum mining plant or general mining plant may be allowed in lieu of spreading the cost over the life of the oil field or mine. The cost of exploration plant may also be deducted under the depreciation provisions of the law. The investment allowance scheme may permit a deduction at the rate of 20 per cent of the cost of certain new plant.

Special deductions are allowable for capital expenditure incurred on certain transport facilities used primarily and principally in relation to minerals mined in Australia for the transport of raw minerals and certain specified products obtained from the processing of such minerals, or for transporting petroleum between the oil or gas field and a refinery or other terminal. The special deduction applies to expenditure incurred on a railway, road, pipeline or similar transport facility and on certain port facilities or other facilities for ships. Allowable expenditure on transport facilities is deductible in equal annual instalments over a period of ten or twenty years at the option of the mining enterprise.

An income tax rebate of 30 cents for each dollar of share capital subscribed may be available to shareholders of petroleum mining companies exploring or mining for petroleum in Australia, including off-shore areas, where those companies lodge appropriate declarations with the Commissioner of Taxation in respect of the moneys subscribed. By lodging those declarations, certifying that the capital subscriptions have been, or will be, spent on eligible outgoings within a specified period, the petroleum mining companies forgo deductions to which they might otherwise be entitled for capital expenditure.

Petroleum search subsidy. The Petroleum Search Subsidy Scheme, introduced in 1957, was terminated on 30 June 1974. For details *see* Year Book No. 61, pages 936-7.

Pricing of Australian crude oil. In August 1977, the Commonwealth Government announced new arrangements in the pricing, allocating, and levying arrangements of crude oil. These will take the price of indigenous crude oil from presently known fields in the direction of import parity. This will be achieved through a uniform method of price determination. The new scheme, which took effect from 17 August 1977, applies to each known field in Australia.

Producers receive the import parity price for a specified part of their production. Import parity is received for either the first 6 million barrels of oil produced from each field per annum, or for a proportion of production per annum which will be increased over time according to a specified schedule, whichever is the greater in any particular case. The schedule is 10 per cent from 17 August 1977 until the end of the 1977-78 financial year, rising to 20 per cent for the financial year 1978-79, 35 per cent for 1979-80 and 50 per cent for 1980-81. The phasing-in will then continue only for fields producing less than 15 million barrels per annum. For all additional production from each field or new development, the producers receive the price which was current up to the time of the introduction of the new arrangements, i.e. \$2.33 per barrel in the case of the Bass Strait fields, and \$2.88 per barrel in the case of the Barrow Island field. All production from the Moonie and Alton fields and other small fields will, in practice, receive import parity prices, as the output from those fields is well below 6 million barrels per annum.

The Government will review the position before June 1981 to decide the rate at which the further progression to full import parity should take place for presently known fields. Oil from fields discovered after 14 September 1975 will continue to receive full import parity.

The import parity price will be set every six months by the Commonwealth Government and will be calculated on the basis of the price of Arabian light oil at the nearest refinery port, adjusted to allow for an appropriate quality differential. This differential will take account of the suitability of indigenous crude oil for the local market. For the period after 1 July 1979, the import parity price is set at \$18.66 per barrel for Bass Strait crude oil, \$18.84 for Barrow Island crude, and \$19.71 for Moonie crude delivered to Westernport, Kwinana, and Brisbane/Roma respectively.

Oil Supply Emergencies

The National Petroleum Advisory Committee (NPAC) was established in September 1979, to advise Commonwealth, State and Territory Governments on:

- appropriate arrangements for the equitable allocation of liquid fuels, during any period of supply shortage.
- priorities for the allocation of liquid fuels during periods of shortage.

The 22-man membership of NPAC is drawn from agricultural, general aviation, fishing, manufacturing, mining, shipping and transport industries, oil industry, trade union movement and motorists organisations as well as Commonwealth, State and Territory Governments. The Department of National Development and Energy provides the Secretariat for NPAC.

Payments to producers of phosphate fertilisers. The *Phosphate Fertilisers Bounty Act* 1963 provides for a bounty to be paid on phosphatic substances produced and sold in Australia as a fertiliser. Phosphatic substances used as a supplement to stock food are also regarded as being used as a fertiliser. Bounty is payable at the rate of \$12 per tonne in respect of superphosphate where the available phosphorus content is not less than 8.5 per cent or more than 8.9 per cent by weight. Outside this range, bounty is payable at \$138 per tonne of the available phosphorus content of the substance. The intention of the Act is to assist consumers of phosphate fertilisers (primary producers). The Act expires on 30 June 1982.

Bureau of Mineral Resources, Geology and Geophysics. The role of BMR is:

- (i) to develop an integrated, comprehensive, scientific understanding of the geology of the Australian continent, the Australian offshore area and the Australian Antarctic Territory, as a basis for minerals exploration; this to be done where appropriate in co-operation with State Geological Surveys and other relevant organisations and having regard to priorities for the search for minerals approved by the Minister for National Development and Energy;
- (ii) to be the primary national source of geoscience data and to publish and provide information; and
- (iii) to undertake mineral resource assessments in accordance with programs and priorities approved by the Minister for National Development and Energy with the advice of the BMR.

The BMR comprises five branches under the Director: Operations, Mineral Resources, Geological, Geophysical, and Petroleum Exploration. The Operations Branch consists of five sections: Planning and Co-ordination, Publications and Information, Automatic Data Processing Applications, Cartography and Administrative. It carries out central office functions, including planning and control of program, assessment of results, co-ordination of activities, liaison, distribution of information and provision of ADP and cartographic services. The Mineral Resources Branch comprises the sections Mineral Economics and Mining Engineering and is concerned largely with those aspects of the BMR's work

which involve studies of the mineral industry as a whole, including the assessment of Australia's mineral resources and the preparation of advice and reviews for the Government, industry and the public. The Geological and Geophysical Branches are responsible for the principal field activities of the BMR and the operation of observatories. The Petroleum Exploration Branch is concerned with the technical administration of the *Petroleum (Submerged Lands) Act 1967*, the assessment of sedimentary basins in Australia and its Territories, and monitors the level of petroleum exploration, development, and production activity and associated economic factors. At 30 September 1980, 502 officers were employed at the BMR, this included 202 professional officers (geologists, geophysicists, chemists, engineers and mineral economists).

The BMR maintains laboratories in Canberra engaged on geochemical, geochronological and petroleum technological studies and basic research into the design and testing of geophysical equipment. It also maintains geophysical observatories at Kowen Forest (Australian Capital Territory), Mundaring (Western Australia), Mawson (Antarctica), and Macquarie Island. The geophysical observatories are engaged in geomagnetic, ionospheric, and seismology research.

State Government assistance

In addition to free assays and determinations of rocks and minerals carried out for prospectors by the Mines Departments of the States and Territories, technical officers of these departments provide advice to the mining and allied industries where required, carry out field examinations of mining prospects, advise on exploration and development, select sites for water supply, and generally give a free technical service to the mining industry.

New South Wales. The Department of Mineral Resources renders scientific, technical and financial assistance to the mining industry. Grants are made to cover up to half the cost of prospecting and drilling operations. These grants are repayable if sufficient payable minerals are discovered or if certain other conditions are met. A quantity of equipment is also available for hire in several localities. The Department has itself undertaken a program of contract drilling to investigate the existence of mineral deposits in the State (including the testing and proving of coal resources). Expenditure on exploration and prospecting in 1978-79 amounted to \$974,710, including \$306,339 on grants and \$586,711 on the Department's own drilling program.

Victoria. The Department of Minerals and Energy comprises the Divisions of Administration, Energy, Geological Survey, Hazardous Materials, Oil and Gas, Mining. These divisions conduct geological and mineral surveys and produce geological maps, and issue scientific and technical reports thereon. Rotary, percussion and auger drilling operations are carried out and the results are used in sedimentary basin studies and to evaluate petroleum, mineral and groundwater potential. A comprehensive library and a geological museum are maintained, and a core library retains cores and cuttings from drilling operations. The administration of petroleum, pipeline, mining and extractive industry legislation by the various Divisions of the Department ensures that petroleum exploration and production (both on-shore and off-shore), mining and quarrying are carried on in a safe and effective manner. Technical assistance and limited loans and grants are available for mineral exploration and prospecting and for approved development operations. Five stamp batteries located throughout the State provide an ore-crushing service to enable test crushings to be made at nominal cost. Information is available on mining law and mineral statistics. Assays of ores, analytical services, advice on metallurgical treatments, industrial pollution and chemical problems are available, together with information on the manufacture, handling and use of explosives and inflammable liquids. Financial assistance is available to municipalities to reclaim mine-damaged land in areas where a reclamation committee recommends such action.

Queensland. The Department of Mines provides assistance to mining by way of geological services, grants for construction and maintenance of roads in mining areas, repayable advances or subsidies for mine development, hiring and equipment, and assistance to prospectors. The Department maintains a concentration plant for tin ores at Irvinebank, an assay office at Cloncurry and diamond drilling plants in various parts of the State. The Queensland Coal Board carries out research and sampling tests of Queensland coals. It also makes funds available to colliery proprietors for equipment and makes grants and/or loans for the provision of amenities for employees and for communities in coal mining districts.

South Australia. The Department of Mines and Energy has as its principal functions the administration of mining and petroleum legislation including the granting of mineral leases and collection of royalties and fees; geological and geophysical investigations to ascertain the extent and nature of the State's mineral resources; drilling to test mineral deposits, petroleum reserves and underground water supplies; the testing and treatment of minerals, generally in arrangement with the Australian Mineral

Development Laboratories; control of mining and rehabilitation; co-ordinating State Government activities and formulating policy advice in the discovery, assessment and development of all energy resources within the State.

Western Australia. Prospectors receive assistance of either \$15 or \$17.50 a week according to the prospecting locality. North of the 26th parallel and within a defined area south of this lying largely outside the agricultural areas, assistance is given to the extent of \$17.50 a week. In the remainder of the State prospectors receive \$15 a week. Provision is also made for the supply of some tools required for prospecting. There are fifteen State batteries operating intermittently throughout the goldfields for the treatment of ore from prospectors and small mine owners at a nominal charge. A cartage subsidy is also granted to such operators sending gold and lead ores to State batteries for treatment. Provision is made for loans to mine-owners who require assistance to develop mines.

Tasmania. The Department of Mines provides financial assistance to mining lessees for the purchase of plant and machinery; for sinking, repairing or de-watering of shafts; for construction of dams and water races; for testing and proving a deposit of any mining product; for developmental work; and for diamond and other types of drilling. The Department has available for hire percussion and diamond drills for exploration. Other assistance is rendered to the industry through geological and engineering advice, ore-dressing research into metallurgical recoveries, and the selection and design of treatment plant.

Northern Territory. The Department of Mines and Energy provides a wide range of services through its Geological Survey and Mines Division. The Division is examining the regional geology and geophysics of the Territory, with a view to facilitating the search for mineral, energy and ground water resources. It provides geological and geophysical advice, undertakes and promotes research into new techniques for mapping, geophysical surveys and mineral search. A Technical Library service is provided in Darwin and Alice Springs. Drill cores and cuttings are maintained at Darwin, Alice Springs and Tennant Creek.

The Mines Division provides expertise in mining, occupational hygiene, environment protection, metallurgy, economics and assaying. Services include plants at Mount Wells and Tennant Creek to process ore at subsidised rates; hire of mining equipment at nominal rates; funding of mine access road construction and maintenance, water supply, drilling, mine development and ore haulage; advice on mining techniques, mineral processing, project assessment, finance and marketing.

Rehabilitation of abandoned mine areas and preservation of historical mine items are programmed.

Research

Research investigations into problems of exploration, mining, ore-dressing and metallurgy are conducted by Government bodies, by universities, by private enterprise, and by combined efforts of these bodies. A summary of their functions follows. (For further information on research *see* Chapter 25, Science and Technology).

Australian Atomic Energy Commission

For a more detailed description of the activities of the Australian Atomic Energy Commission *see* Chapter 18, Energy.

The Australian Mineral Development Laboratories

Technical consulting, contract research and process design for the mineral and associated industries is undertaken by The Australian Mineral Development Laboratories (Amdel) at Adelaide. This organisation is controlled by a council comprising representatives of the mineral industry, the South Australian Government and the Commonwealth Government. Extensive facilities are available in the fields of analytical chemistry, mineralogy, petrology, chemical metallurgy and mineral engineering, process instrumentation and control, water and waste water treatment and materials technology. Both long and short term applied research is carried out and all investigations are conducted on a strictly confidential basis. Services in the field of pollution and environmental control are also available through the Amdel group, Amdel (Aspect).

The Baas Becking Geobiological Research Laboratory

In 1965, the Baas Becking Geobiological Research Laboratory was established in the Bureau of Mineral Resources building in Canberra under the joint sponsorship of the Commonwealth Scientific and Industrial Research Organization, the Bureau of Mineral Resources, and the Australian Mineral Industries Research Association (*see* Research by private enterprise, page 418).

Much of the biological research has involved studies on the biology and biochemistry associated with mineralisation processes. The expertise gained is applied to the investigation of biogeological controls on base metal sulphide mineralisation. On the geological side, research is co-ordinated with the field programs of the Bureau of Mineral Resources, and includes studies on the McArthur Basin, the Adelaide Geosyncline and the Pine Creek Geosyncline.

Bureau of Mineral Resources, Geology and Geophysics

The Bureau of Mineral Resources is the largest geoscience research organisation in Australia. Its role is to develop an integrated scientific understanding of the geology of the Australian continent, its Territories and offshore areas, as a basis for mineral exploration and resource assessment. BMR's activities include:

- Basic geochemical, petrological and mineralogical studies of sedimentary and igneous environments of metaliferous deposits and of the deposits themselves including the study of particular genetic groups of mineral deposits on a continental-wide basis;
- Studies of the characteristics and origin of fossil fuels.
- Multidisciplinary studies of metallogenic provinces, of sedimentary basins (including offshore basins), and of those geological systems which have continental development in Australia and which may, on evidence worldwide, be hosts to major mineral deposits or to fossil fuels.
- Studies of the effect of surface processes on the bedrock of the Australian continent in relation to their effect on exploration techniques and to their importance for uranium, water and lateritic accumulations.
- Geophysical studies of the structure of the crust and upper mantle relevant to the understanding of the evolution of the Australian continent and its mineral deposits.
- Studies in exploration geophysics, including remote sensing and airborne radiometric and magnetic surveys and their interpretation.
- Marine geophysical surveys and their geophysical and geological interpretation.
- Assessment of resource potential for minerals.
- Assessment of resource potential for fossil fuels.
- Development and maintenance of a national geoscience data base.

For details of the functions of the Bureau of Mineral Resources, Geology and Geophysics, *see* page 385.

Commonwealth Scientific and Industrial Research Organization

Mineral research by the Commonwealth Scientific and Industrial Research Organization (CSIRO) is undertaken mainly within the Institute of Earth Resources with the objective of contributing to the location, extraction and processing of minerals through development of procedures which are efficient and economic and involve safe working practices which do not impose irreparable damage on the environment. The Divisions and independent units in the Institute engaged in mineral research are the Division of Applied Geomechanics at Syndal (Vic.), the Fuel Geoscience Unit at North Ryde (N.S.W.); the Division of Mineral Chemistry at Port Melbourne (Vic.); the Division of Mineral Engineering at Clayton (Vic.); the Division of Mineralogy at Perth (W.A.) and North Ryde (N.S.W.), the Division of Mineral Physics at North Ryde (N.S.W.) and Port Melbourne (Vic.), the Physical Technology Unit at Ryde (N.S.W.); and the Division of Process Technology at North Ryde (N.S.W.).

Department of National Development and Energy

The National Coal Research Advisory Committee which was established in 1964 no longer exists. Its functions have been incorporated into the National Energy Research, Development and Demonstration Council (NERDDC) which is administered by the Department of National Development and Energy. For details of NERDDC and the National Energy Advisory Committee (NEAC), which advises the Minister for National Development and Energy on matters relating to national energy policy *see* Chapter 18, Energy and Chapter 25, Science and Technology.

University Research

The various universities in Australia carry out research into various aspects of the mineral industry such as geology, ore mineralogy and genesis, mining techniques, mineral processing, extractive metallurgy, and materials and metals technology.

Research by private enterprise

Many of the large companies in the mineral industry conduct their own research in dealing with their particular Company's interests. In 1959 the major companies in the industry, formed the Australian Mineral Industries Research Association Limited to co-ordinate and manage sophisticated research programmes on a co-operative basis, carried out by the Australian Mineral Development Laboratories, CSIRO, Universities and by other research organisations.

Since then, the research activity has grown considerably in magnitude and currently involves many of the seventy five companies which comprise the Company, Associate and Division members within the Association.

Fields of research cover geology, ore genesis and exploration techniques, mining and rock mechanics, mineral processing, ecology, energy, analytical methods and miscellaneous other items and the expenditure in these fields in 1979–80 was approximately \$1,550,000.

International relations

Because Australia is a large supplier of certain minerals to the rest of the world, and because the welfare of the domestic industry depends to a large extent on the maintenance of a high level of exports, international relations are of considerable importance to the industry, and the Commonwealth Government takes an active role in international consultations and discussions relating to minerals. The most important international commitments are discussed below.

International Tin Agreement

The First International Tin Agreement (of the post-war period) was in operation for five years from 1 July 1956 to 30 June 1961. It was followed by the Second, Third, Fourth and Fifth International Tin Agreements, which came into force on 21 February 1962, 21 March 1967, 1 July 1971 and 1 July 1976 respectively. Australia joined the Fourth and Fifth Agreements as a 'producing' (i.e. exporting) member, whereas in the first three agreements Australia's status had been that of a 'consuming' (i.e. importing) member. Details of the Second and Third Agreements are given in Year Book No. 57, pages 911–12. Details of the Fourth Agreement are given in Year Book No. 61, page 942.

The objectives and provisions of the present (Fifth) Agreement are essentially the same as for its predecessors. The International Tin Agreement establishes floor and ceiling prices for tin and, by the medium of a buffer stock and remedial trading, aims at confining the prices within these limits. Producing countries are required to contribute to a buffer-stock equivalent in cash or tin up to 20,000 tonnes of tin metal, which is used to buffer short-term fluctuations in the world price market. In addition, consuming countries may also make contributions in either cash or tin metal up to the equivalent of 20,000 tonnes of tin metal. In the event of persistent market disequilibrium through causes beyond the control of the buffer stock mechanism, the agreement also provides for the regulation of exports and stocks to stabilise the market.

The International Tin Agreement is operated by the International Tin Council, which is made up of the following governments: *Producers*—Australia, Bolivia, Indonesia, Malaysia, Nigeria, Thailand, Zaire; *Consumers*—Austria, Belgium-Luxembourg, Bulgaria, Canada, Czechoslovakia, Denmark, France, Germany (Federal Republic of), Hungary, India, Ireland (Republic of), Italy, Japan, Netherlands, Norway, Poland, Romania, Spain, Turkey, United Kingdom, United States of America, Union of Soviet Socialist Republics and Yugoslavia. The producing countries hold a total of 1,000 votes, distributed so that each country receives five initial votes and an additional number corresponding to its percentage as laid down by the Agreement. The consuming countries hold a total of 1,000 votes also distributed so that each country receives five initial votes and an additional number proportionate to quantities consumed. The allocation of votes in each category is periodically reviewed.

International Lead-Zinc Study Group

With the cessation of stockpile buying of lead and zinc by the United States Government in 1958, world producers were faced with the prospect of a serious imbalance between world supply and demand for these metals. To meet this problem, a series of meetings of interested governments was held at which Australia was represented. These meetings culminated in the formation of the International Lead-Zinc Study Group which was established in January 1960. The Study Group comprises the following Governments: Algeria, Australia, Austria, Belgium, Bulgaria, Canada, Czechoslovakia, Denmark, Finland, France, Germany (Federal Republic of), Hungary, India, Ireland (Republic of), Italy, Japan, Mexico, Morocco, Netherlands, Norway, Peru, Poland, South Africa (Republic of), Spain, Sweden, Tunisia, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland, United States of America, Yugoslavia and Zambia. The Group provides opportunities for inter-governmental consultations on international trade in lead and zinc and for studies of the world situation in lead and zinc having regard especially to the desirability of providing continuous, accurate information regarding the supply and demand position and its probable development.

Association of Iron Ore Exporting Countries (APEF)

Australia is a founder member of the Association of Iron Ore Exporting Countries (APEF). Other members include Algeria, India, Liberia, Mauritania, Peru, Sierra Leone, Sweden and Venezuela.

The objectives of the Association are to promote close co-operation among Member countries with a view to safeguarding their interests in relation to the iron ore export industry; to ensure the orderly and healthy growth of export trade in iron ore; to assist Member countries to secure fair and remunerative returns from the exploitation, processing and marketing of iron ore and to provide a forum for consultations and the exchange of information on problems relating to the iron ore export industry.

Although meetings of the Association have been mainly concerned with administrative matters, it has been agreed that the Secretariat's work programme should give priority to the preparation of statistical material. The Association has also discussed the attitudes of APEF members to iron ore matters raised under the UNCTAD Integrated Programme on Commodities.

Intergovernmental Council of Copper Exporting Countries (CIPEC)

The CIPEC was established in 1967 by the Governments of Chile, Peru, Zaire and Zambia as an intergovernmental consultative organisation.

Australia and Papua-New Guinea were admitted as Associate Members and Indonesia as a Full Member in 1975; Yugoslavia was admitted as an Associate Member in 1977. Associate Members may participate in meetings but have no voting rights and are not bound by CIPEC's decisions.

The key objectives of CIPEC are to co-ordinate measures to achieve continuous growth in real earnings from copper exports and to harmonise the decisions and policies of members relating to copper production and marketing.

International Bauxite Association

Australia joined the International Bauxite Association (IBA) as a founder member in October 1974. Other members are Dominican Republic, Ghana, Guinea, Guyana, Haiti, Indonesia, Jamaica, Sierra Leone, Surinam and Yugoslavia. Members account for about three-quarters of world bauxite production with Australia accounting for nearly one third of world production.

The objectives of the Association are to promote the orderly and rational development of the bauxite industry; to secure for members fair and reasonable returns from the exploration, processing and marketing of bauxite and its products for the economic and social development of their peoples, bearing in mind the recognised interests of consumers; and generally to safeguard the interests of member countries in relation to the bauxite industry.

The Association consists of a Council of Ministers which meets once a year and is the supreme organ, an Executive Board consisting of senior officials which meets three times a year and a Secretariat which is located in Kingston, Jamaica.

The IBA provides members with an opportunity to discuss common problems and evolve co-operative policies to facilitate further development of their bauxite/alumina/aluminium industries. To date the Association's work has been mostly concerned with exchanging views and information on a range of industry matters. The commercial and technical aspects of formulating minimum export prices for bauxite and alumina has received particular attention. In December 1979 the Council adopted recommendations on minimum CIF prices for bauxite and alumina sold by member countries in 1980. Australia was not included in the majority that voted for the recommendations and is not bound by them. The Association publishes a Quarterly Review and a bi-monthly newsletter.

MINERAL INDUSTRY STATISTICS

Statistics in the following pages refer mainly to the mining industry, mineral production, mineral exploration, mineral processing and treatment, and overseas trade.

Mining industry statistics

This section contains statistics of the mining industry in Australia obtained from the annual census of mining establishments. The annual mining census is conducted throughout Australia on an integrated basis with other economic censuses, e.g. the annual census of manufacturing establishments, electricity and gas establishments and the periodic censuses of retail and wholesale trade establishments.

Statistics are also available for *enterprises* engaged in the mining industry. The latest statistics for mining are in respect of 1977-78 and were published in *Enterprise Statistics: Details by Industry Class, Australia, 1977-78* (8103.0). Enterprise statistics for mining are now produced annually and should be available within two years of the end of the financial year to which they relate.

The following table shows key items of data for establishments in Australia for 1978-79 based on the 1978 edition of the *Australian Standard Industrial Classification* (ASIC). The 1978 edition of the classification replaces the 1969 preliminary edition which has been in use since the 1968-69 census.

A document fully describing the differences between the 1969 and 1978 editions of the ASIC is available on request.

MINING ESTABLISHMENTS: SUMMARY OF OPERATIONS BY INDUSTRY CLASS, 1978-79

Industry		Establish- ments at	Average employment over whole year(a)			Wages and salaries	Stocks			Total pur- chases, transfers in and selected expenses	Rent and leasing expenses	Fixed capital expendi- ture less	
1978 ASIC code	Description	30 June	Males	Females	Persons	(b)	Turnover	Opening	Closing	Value added	(c)	disposals	
		No.	No.	No.	No.	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	
	Metallic minerals—												
	Ferrous metal ores—												
1111	Iron ores	23	6,697	811	7,508	125,207	1,008,283	105,565	88,829	426,018	565,530	3,035	259,963
1112	Iron ore pelletising	4	1,254	64	1,318	21,849	203,737	27,100	20,507	185,487	11,657	731	2,421
	Non-ferrous metal ores—												
1121	Bauxite	5	1,621	179	1,800	25,905	203,545	15,692	13,116	49,156	151,813	956	47,166
1122	Copper ores	15	3,892	246	4,138	59,263	251,348	18,288	31,120	76,576	187,604	349	9,773
1123	Gold ores	32	1,377	64	1,441	19,713	118,619	11,931	14,029	31,850	88,867	91	13,352
1124	Mineral sands	17	1,877	129	2,006	26,722	131,826	36,313	32,692	59,475	68,731	1,943	4,158
1125	Nickel ores	6	2,158	201	2,359	34,419	138,029	12,039	16,316	63,260	79,046	1,159	29,684
1126	Silver-lead-zinc ores	11	6,457	316	6,773	108,888	556,054	72,662	72,215	104,910	450,698	694	60,355
1127	Tin ores	50	1,510	111	1,621	19,616	125,551	7,490	8,413	36,831	89,643	1,477	10,546
1128	Uranium ores	1											
1129	Non-ferrous metal ores n.e.c.	14	1,748	223	1,971	30,114	163,653	28,885	23,923	49,648	109,044	741	40,942
11	Total metallic minerals	178	28,591	2,344	30,935	471,695	2,900,645	335,964	321,162	1,083,210	1,802,632	11,179	478,359
	Coal, oil and gas—												
1201	Black coal	119	24,185	519	24,704	457,267	2,002,317	201,089	226,240	647,906	1,379,563	12,334	401,297
1202	Brown coal	4	3,245	105	3,350	57,015	1,074,042	42,684	42,066	106,471	966,953	816	118,231
1300	Oil and gas	11											
	Construction materials—												
1401	Sand and gravel	308	1,356	115	1,471	17,276	114,475	6,633	6,814	52,917	61,739	3,965	3,861
1404	Construction materials n.e.c.	416	4,061	365	4,426	55,363	274,513	25,625	28,269	128,651	148,506	9,050	22,473
14	Total construction materials	724	5,417	480	5,897	72,639	388,988	32,259	35,084	181,568	210,245	13,015	26,334
	Other non-metallic minerals—												
1501	Limestone	50	717	16	733	8,578	41,546	2,490	3,100	18,118	24,037	822	7,856
1502	Clays	125	273	19	292	2,841	21,484	2,750	3,108	12,480	9,362	467	1,306
1504	Salt	23	646	63	709	10,860	39,089	10,138	9,466	13,471	24,946	723	7,116
1505	Non-metallic minerals n.e.c.	134	1,083	89	1,172	13,958	79,358	15,359	13,982	50,634	27,347	3,401	8,683
15	Total other non-metallic minerals	332	2,719	187	2,906	36,238	181,476	30,738	29,655	94,703	85,691	5,414	24,961
	Total mining (excl. services to mining)	1,368	64,157	3,635	67,792	1,094,855	6,547,468	642,733	645,206	2,113,857	4,445,084	42,756	1,049,182

(a) Includes working proprietors.
of "Value added".

(b) Excludes amounts drawn by working proprietors.

(c) Included in "Total purchases, etc." and in the calculation

Mining accidents

Particulars of numbers of persons killed and injured in accidents in mines and associated treatment plants are recorded by State Mines Departments. Numbers injured are not reported on a uniform basis in all States, as varying criteria are used in determining what constitutes injury. A table setting out mining accidents by States is shown below.

MINING ACCIDENTS(a)

	Metal mining		Fuel mining		Construction material quarrying(b)		Non-metal (excluding fuel) mining		Total mining and quarrying	
	Number of casualties		Number of casualties		Number of casualties		Number of casualties		Number of casualties	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
1978-79—										
New South Wales	4	175	14	69	—	10	2	13	20	267
Victoria	—	—	—	38	—	31	—	1	—	70
Queensland	(d)1	(d)123	(d)1	(d)376	—	(d)13	—	(d)5	(d)2	(d)517
South Australia	1	38	—	29	1	9	2	17	4	93
Western Australia	4	250	—	64	1	13	—	10	5	337
Tasmania	3	248	1	17	—	2	—	2	4	269
Northern Territory	—	24	—	—	—	—	—	—	—	24
Australian Capital Territory	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Australia(b)(c)	13	858	16	593	2	78	4	48	35	1,577
1977-78	10	1,014	7	450	6	88	5	55	28	1,607

(a) See text regarding comparability between States. (b) Mining accident data for construction material quarrying in the A.C.T. are not available. (c) These figures include some accidents in the mineral processing industry, and, in Western Australia, in electricity generating plants at the mine site. (d) Year ended 31 December 1979.

Mineral production

This section contains details of the output (quantity and value) of minerals produced and the metallic content of ores, concentrates, etc.

The statistics shown have been derived from data collected in the annual mining census and in returns to the various State Mines Departments, supplemented in some cases by information made available by the Department of National Development and Energy and from other sources.

For details of the scope of mineral production statistics and their relation to mining industry statistics, and the principles for measuring the output of minerals, see Year Book No. 61 and earlier issues.

Quantity of minerals produced

The following tables show particulars of the quantities of minerals produced during 1978-79 and earlier years, together with details of the aggregate quantity of each metal, metallic oxide or elements contained in the various metallic minerals produced.

QUANTITY OF MINERALS PRODUCED AND METALLIC CONTENTS OF ORES, CONCENTRATES, ETC.

Mineral		1976-77	1977-78	1978-79
METALLIC MINERALS				
Antimony concentrate	tonnes	n.p.	n.p.	1,518
Antimony content	"	n.p.	n.p.	n.p.
Antimony ore	tonnes	1,230	464	3
Antimony content	"	111	61	2
Bauxite	'000 tonnes	22,806	24,642	25,541
Alumina (Al ₂ O ₃) content	"	n.p.	n.p.	n.p.
Beryllium ore	tonnes	—	—	—
Beryllium oxide (BeO) content	mtu(a)	—	—	—
Bismuth concentrate	tonnes	5,338	5,743	n.p.
Bismuth content	tonnes	853	756	n.p.
Copper content	tonnes	1,116	1,227	831
Gold content	kg	485	533	140

For footnotes see end of table.

QUANTITY OF MINERALS PRODUCED AND METALLIC CONTENTS OF ORES, COCENTRATES,
ETC.—*continued*

<i>Mineral</i>		<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>
Selenium content	tonnes	28	31	—
Silver content	kg	191	210	122
Copper concentrate	'000 tonnes	756	750	819
Copper content	tonnes	198,069	198,290	216,714
Bismuth content	"	203	183	n.p.
Gold content	kg	2,369	2,210	1,717
Lead content	tonnes	364	363	1,625
Silver content	kg	28,362	27,477	32,976
Zinc content	tonnes	1,210	1,259	2,680
Copper ore	tonnes	11,874	1,271	2,433
Copper content	"	2,029	101	174
Gold content	kg	1	—	—
Silver content	"	216	231	24
Copper ore for fertilizer	tonnes	—	—	—
Copper content	"	—	—	—
Copper oxide	tonnes	2,735	3,810	3,403
Copper content	"	2,129	2,953	2,632
Copper precipitate	tonnes	45	51	21
Copper content	"	29	36	16
Gold bullion(b)	kg	15,608	21,127	18,765
Gold content	"	11,004	16,291	15,902
Silver content	kg	1,734	1,407	1,577
Gold ore	tonnes	115	25	197
Gold content	kg	2	1	1
Iron ore(c)	'000 tonnes	94,766	89,872	84,595
Iron content	"	60,164	54,739	53,248
Iron oxide(d)	tonnes	56,934	51,156	47,711
Lead concentrate	'000 tonnes	632	622	658
Lead content	tonnes	391,286	385,510	394,913
Antimony content	"	535	513	570
Cadmium content	"	64	51	101
Copper content	"	4,057	4,235	5,211
Gold content	kg	260	276	345
Silver content	kg	682,578	662,685	692,355
Sulphur content	tonnes	48,536	49,576	57,314
Zinc content	"	34,314	32,424	38,777
Lead-copper concentrate	tonnes	25,709	46,654	24,719
Lead content	"	6,215	12,845	5,155
Copper content	"	3,328	3,658	3,343
Gold content	kg	1,132	1,333	1,038
Silver content	"	49,533	67,382	49,995
Sulphur content	tonnes	7,674	11,478	7,558
Zinc content	"	2,490	6,685	2,546
Lead ore (e)	tonnes	34,760	51,066	5,367
Lead content	"	1,923	2,857	726
Silver content	kg	2,175	3,234	1,778
Lead-zinc middlings	tonnes	21,656	628	—
Lead content	"	1,992	208	—
Antimony content	"	—	1	—
Cadmium content	"	43	1	—
Copper content	"	260	8	—
Gold content	kg	58	2	—
Silver content	"	21,764	200	—
Sulphur content	tonnes	6,172	179	—
Zinc content	"	9,334	188	—
Manganese ore—				
Metallurgical grade	'000 tonnes	1,681	1,325	1,385
Manganese content	"	806	628	656
Mineral sands (f)—				
Ilmenite concentrate (g)	"	990	1,137	1,207
Titanium dioxide content	tonnes	541,079	626,662	683,155
Leucoxene concentrate	'000 tonnes	9	17	19
Titanium dioxide content	tonnes	7,700	16,284	16,873
Monazite concentrate	'000 tonnes	7	9	19
Monazite content	tonnes	6,487	8,646	17,385

For footnotes see end of table.

QUANTITY OF MINERALS PRODUCED AND METALLIC CONTENTS OF ORES, COCENTRATES,
ETC—*continued*

<i>Mineral</i>		1976-77	1977-78	1978-79
Rutile concentrate	'000 tonnes	371	274	269
Titanium dioxide content	tonnes	354,966	262,990	258,471
Xenotime concentrate	'000 tonnes	—	—	—
Yttrium oxide content	kg	3,900	4,848	6,060
Zircon concentrate	'000 tonnes	408	365	454
Zirconium dioxide content	tonnes	325,542	284,956	176,975
Nickel concentrate	'000 tonnes	450	467	353
Nickel content	tonnes	54,578	56,850	43,944
Cobalt content	"	171	234	145
Copper content	"	4,438	4,839	3,474
Palladium content	kg	213	356	175
Platinum content	"	81	141	69
Nickel ore	'000 tonnes	2,238	2,560	2,586
Nickel content	tonnes	26,521	30,141	36,441
Pyrite concentrate	'000 tonnes	228	252	111
Sulphur content	tonnes	109,807	114,690	52,986
Tantalite-columbite concentrate	tonnes	105	207	107
Tantalite-columbite content	kg	41,050	89,040	63,771
Tin concentrates	tonnes	20,944	22,684	22,618
Tin content	"	10,253	11,726	11,964
Tin-copper concentrate	tonnes	2,610	1,806	1,980
Tin content	"	72	45	47
Copper content	"	535	390	457
Tungsten concentrates—				
Scheelite concentrate	tonnes	3,190	n.p.	3,129
Tungstic oxide content	mtu(a)	n.p.	n.p.	228,539
Wolfram concentrate	tonnes	567	n.p.	1,840
Tungstic oxide content	mtu(a)	39,735	n.p.	127,232
Zinc concentrate	'000 tonnes	822	850	879
Zinc content	tonnes	426,194	441,888	453,260
Cadmium content	"	1,441	1,472	1,559
Cobalt content	"	109	108	86
Copper content	"	1,226	1,228	1,587
Gold content	kg	215	227	297
Lead content	tonnes	16,446	16,943	18,647
Manganese content	"	5,241	5,534	5,856
Mercury content	kg	21	—	—
Silver content	kg	53,199	59,512	65,532
Sulphur content	tonnes	261,861	269,214	280,758
Zinc ore	tonnes	4,643	4,137	—
Zinc content	"	1,764	1,874	—

COAL

Black coal	'000 tonnes	75,982	79,338	81,197
Bituminous	"	70,467	73,654	75,332
Sub-bituminous	"	5,516	5,684	5,865
Brown coal (lignite)(h)	"	28,231	27,644	29,095
Brown coal briquettes	"	1,035	1,064	1,131

OIL AND GAS (i)

Crude oil	'000 cu m	24,549	24,941	24,839
Natural gas	mil. cu m	6,093	6,720	7,686
Natural gas condensate(j)	'000 cu m	6	6	13
Ethane	"	103,350	110,455	144,025
Liquefied petroleum gases (k)—				
Propane	"	1,208	1,269	1,544
Butane	"	1,325	1,388	1,683

For footnotes see end of table.

QUANTITY OF MINERALS PRODUCED AND METALLIC CONTENTS OF ORES, COCENTRATES,
ETC—continued

Mineral		1976-77	1977-78	1978-79
CONSTRUCTION MATERIALS(l)				
Sand	'000 tonnes	24,950	24,345	23,855
Gravel	"	15,071	14,394	13,958
Dimension stone	"	87	91	147
Crushed and broken stone	"	53,012	60,576	54,223
Other	"	30,222	26,905	32,899
OTHER NON-METALLIC MINERALS				
Asbestos	tonnes	55,814	50,590	67,514
Barite	"	n.p.	11,035	n.p.
Carbon dioxide . . . . .	"	..	..	..
Chlorite	tonnes	—	—	—
Clays—				
Brick and shale	'000 tonnes	8,571	8,549	8,028
Other(m)	"	1,190	n.p.	1,162
Diatomite	tonnes	1,371	2,630	2,815
Dolomite	"	535,330	622,939	684,278
Felspar (including cornish stone)	"	2,998	2,505	3,506
Garnet concentrate	"	658	1,187	1,333
Gypsum	'000 tonnes	992	900	1,074
Limestone (including shell and coral)	"	10,528	10,750	10,813
Magnesite, crude	tonnes	16,873	18,138	26,560
Mineral pigments—red ochre	"	166	193	737
Peat(n)	"	n.p.	n.p.	n.p.
Pebbles—for grinding	"	1,260	1,673	1,473
Perlite	"	4,621	829	1,971
Phosphate rock	"	455,986	397,041	6,986
Pyrophyllite	"	12,112	12,774	13,318
Salt	'000 tonnes	5,023	5,410	5,339
Silica	"	1,406	1,314	1,618
Sillimanite	tonnes	7,228	589	545
Talc (including steatite)	'000 tonnes	86	123	142

(a) Metric ton unit (mtu) equals 10 kilograms. (b) Includes alluvial gold. (c) Includes iron concentrate. (d) For cement manufacture, coal washing. (e) Includes silver-lead ore, silver-lead slimes and lead slag. (f) Details relating to rutile-zircon concentrates produced in one State and finally separated in another State are included in separate form in the data of the State of origin. (g) Includes Beneficiated Ilmenite. Also includes ilmenite from which titanium dioxide is not commercially extractable. (h) Excludes brown coal used for briquette production. (i) Source: Department of National Development and Energy and State Mines Departments. (j) Sales—excludes condensate blended and other petroleum products. (k) Excludes refinery production. (l) Incomplete. (m) Incomplete owing to difficulties of coverage. (n) Comprises peat for fertiliser and peat moss.

CONTENTS OF METALLIC MINERALS PRODUCED

<i>Contents of metallic minerals produced</i>		1976-77	1977-78	1978-79
Alumina (Al ₂ O ₃)	'000 tonnes	n.p.	n.p.	n.p.
Antimony	tonnes	n.p.	n.p.	1,588
Beryllium oxide (BeO)	mtu(a)	—	—	—
Bismuth	kg	1,056,199	890,703	n.p.
Cadmium	tonnes	1,548	1,545	1,660
Cobalt	"	2,210	2,646	3,451
Copper	"	217,216	217,083	238,688
Gold	kg	15,666	21,047	19,584
Iron(b)	'000 tonnes	60,164	54,739	53,248
Lead	tonnes	418,226	418,801	423,492
Manganese	"	811,414	633,047	662,326
Mercury	kg	21	—	—
Monazite	tonnes	6,487	8,646	17,385
Nickel	"	81,099	86,991	80,385
Palladium	kg	213	356	175
Platinum	"	81	141	69
Selenium	tonnes	28	31	—
Silver	kg	840,084	837,315	874,075
Sulphur	tonnes	434,050	445,137	398,616
Tantalite-columbite (Ta ₂ O ₅ + Nb ₂ O ₅)	kg	41,050	89,040	63,771
Tin	tonnes	10,325	11,771	12,011
Titanium dioxide (TiO ₂)	"	903,756	905,936	958,499
Tungstic oxide (WO ₃)	mtu(a)	n.p.	n.p.	355,771
Yttrium oxide (Y ₂ O ₃)	kg	3,900	4,848	6,060
Zinc	tonnes	475,306	484,376	498,484
Zirconium dioxide (ZrO ₂)	"	325,572	284,956	176,975

(a) Metric ton unit (mtu) equals 10 kilograms.
contained in iron concentrate.

(b) Excludes iron content of iron oxide not intended for metal extraction. Includes iron

Value of minerals produced

The following table shows the value of minerals produced in the past six years.

VALUE OF MINERALS PRODUCED
(\$'000)

<i>Mineral</i>	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
METALLIC MINERALS						
Antimony—						
Concentrate	932	1,904	1,462	n.p.	n.p.	1,409
Ore	n.p.	n.p.	n.p.	n.p.	n.p.	2
Bauxite	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Beryllium ore	23	1	—	—	—	—
Bismuth concentrate	7,609	14,085	10,591	12,183	7,923	n.p.
Copper—						
Concentrate	267,873	168,047	159,876	182,448	151,487	256,469
Ore(a)	n.p.	766	305	1,202	109	200
Ore for fertiliser	5	3	—	—	—	—
Oxide	982	1,406	1,900	2,730	3,656	4,409
Precipitate	168	31	42	31	27	14
Gold—						
Bullion(b)	26,839	43,139	43,735	47,501	82,122	101,592
Concentrate	n.a.	—	—	219	215	746
Ore	3	8	10	3	3	9
Iron ore	427,518	613,169	674,515	746,577	769,408	801,636
Iron oxide	n.p.	855	915	1,000	1,020	932
Lead concentrate	110,875	124,519	117,099	177,760	208,343	339,400
Lead-copper concentrate	8,799	7,609	8,363	10,822	15,745	16,531
Lead ore(d)	403	579	566	527	964	—
Lead-zinc middlings	2,002	2,422	2,094	5,630	110	—
Manganese ore	n.p.	n.p.	n.p.	n.p.	n.p.	60,563
Mineral sands—						
Ilmenite concentrate(e)	7,953	14,270	15,835	17,753	21,860	23,768
Leucoxene concentrate	1,060	2,079	2,078	1,318	2,265	2,497

For footnotes see end of table

VALUE OF MINERALS PRODUCED—*continued*

<i>Mineral</i>	<i>1973-74</i>	<i>1974-75</i>	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>
Monazite concentrate	542	515	774	1,178	1,621	4,205
Rutile concentrate	36,750	53,674	71,750	75,654	50,631	51,267
Xenotime concentrate	7	12	9	9	15	19
Zircon concentrate	16,726	58,128	60,935	42,026	25,729	27,189
Nickel concentrate	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Nickel ore	n.p.	—	n.p.	n.p.	n.p.	n.p.
Pyrite concentrate	238	441	771	709	833	710
Tantalite-columbite concentrate	777	942	1,256	1,127	3,670	5,202
Tin concentrate	43,448	49,138	49,060	70,022	108,927	135,365
Tin-copper concentrate	860	390	435	383	287	332
Tungsten ores and concentrates	5,292	11,385	15,497	34,204	n.p.	43,253
Uranium concentrate	n.a.	—	2,641	15,460	24,077	47,832
Zinc concentrate	97,122	138,385	133,340	132,922	120,217	138,464
Zinc ore	1,551	2,439	1,600	325	362	—
Other metallic minerals	—	84	2,928	n.p.	n.p.	n.p.
<i>Total metallic minerals</i>	<i>1,281,782</i>	<i>1,572,746</i>	<i>1,676,273</i>	<i>1,986,680</i>	<i>2,059,716</i>	<i>2,407,524</i>
COAL						
Black coal	449,855	874,879	1,211,199	1,438,289	1,576,914	1,670,553
Brown coal (lignite) (f)	27,251	40,556	48,346	55,905	64,925	79,630
Brown coal briquettes	11,011	11,391	11,974	14,925	16,536	25,063
<i>Total coal</i>	<i>488,116</i>	<i>926,827</i>	<i>1,271,519</i>	<i>1,509,119</i>	<i>1,658,375</i>	<i>1,775,246</i>
OIL AND GAS(g)						
<i>Oil and Gas</i>	<i>378,750</i>	<i>446,298</i>	<i>488,419</i>	<i>534,815</i>	<i>671,233</i>	<i>919,793</i>
CONSTRUCTION MATERIALS(h)						
<i>Construction materials</i>	<i>196,611</i>	<i>238,044</i>	<i>256,328</i>	<i>272,774</i>	<i>308,174</i>	<i>353,062</i>
OTHER NON-METALLIC MINERALS						
Asbestos	4,140	7,960	18,406	20,382	20,514	21,149
Barite	98	303	n.p.	n.p.	404	n.p.
Carbon dioxide	52	45	56	163	180	208
Chlorite	n.a.	10,084	8,723	—	—	—
Clay—						
Brick clay and shale	11,153	10,241	12,634	12,821	13,676	15,513
Other clays	n.p.	n.p.	4,335	4,774	7,085	8,059
Diatomite	70	45	60	71	310	380
Dolomite	1,087	991	1,262	1,421	1,654	2,107
Felspar (including cornish stone)	48	87	97	77	63	89
Garnet concentrate	2	—	—	11	21	45
Gems	47,262	37,032	41,972	64,006	70,219	67,292
Gypsum	3,665	3,176	3,069	4,216	4,061	4,844
Limestone (including shell and coral)	20,794	24,221	26,087	30,154	34,159	39,193
Magnesite, crude	291	722	n.p.	340	411	1,503
Mineral pigments—red ochre	6	—	15	3	4	11
Peat (i)	143	146	n.p.	n.p.	n.p.	n.p.
Pebbles—for grinding	43	27	38	35	27	53
Perlite	11	32	12	45	17	15
Phosphate rock	6	894	1,508	4,477	1,672	44
Pyrophyllite	103	156	200	187	229	345
Salt	16,410	21,951	29,394	33,623	38,558	38,091
Silica	5,353	6,301	6,559	n.p.	n.p.	11,531
Sillimanite	19	22	18	141	27	31
Talc (including steatite)	1,363	1,348	n.p.	n.p.	n.p.	n.p.
Vermiculite	n.p.	n.p.	—	n.p.	7	2
<i>Total other non-metallic minerals</i>	<i>116,062</i>	<i>120,097</i>	<i>149,398</i>	<i>188,057</i>	<i>205,143</i>	<i>215,316</i>

For footnotes see end of table

VALUE OF MINERALS PRODUCED—*continued*

<i>Mineral</i>	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
TOTAL						
Total, all minerals and construction materials	2,461,320	3,304,012	3,841,444	4,491,445	4,902,640	5,670,941

(a) Includes value of copper slag. (b) Includes alluvial gold. (c) Excludes value of Western Australian production. (d) Includes value of silver-lead ore, silver-lead slimes and lead slag. (e) Includes beneficiated ilmenite. (f) Excludes value of coal used in making briquettes. (g) The values shown are estimates based on prices prescribed in legislation quoted market prices and information from government departments. Includes values for crude oil natural gas, natural gas condensate, ethane, propane and butane. (h) Incomplete owing to difficulties of coverage in some States. (i) Comprises peat for fertiliser and peat moss.

Foreign participation of the mining industry in Australia

Summary information on foreign participation in the mining industry in Australia is shown in Chapter 24, Overseas Transactions. More detailed statistics are available in *Foreign Ownership and Control of the Mining Industry* (5317.0) and *Foreign Control in Mineral Exploration* (5323.0).

Mineral exploration (other than for petroleum)

Definition

Exploration consists of the search for and/or appraisal of new ore occurrences and known deposits of minerals (including extensions to deposits being worked) by geological, geophysical, geochemical and other methods (including drilling). Exploration for water is excluded. The construction of shafts and adits is included if primarily for exploration purposes. Excluded are mine development activities carried out primarily for the purpose of commencing or extending mining or quarrying operations (including the construction of drives, shafts, winzes, etc. in underground mines, and the preparation of quarrying sites, including overburden removal, for open-cut extraction).

Sources of statistics

The statistics of exploration for minerals *other than petroleum* are derived from the annual mineral exploration census conducted by the Australian Bureau of Statistics in each State and the Northern Territory (in New South Wales the census is conducted jointly with the State Mines Department).

Classification

The data obtained in the mineral exploration census are divided into the following categories:

(a) *Private exploration on production leases*—relates to exploration carried out on the production lease by privately-operated mines currently producing or under development for the production of minerals.

(b) *Other private exploration*—relates to exploration carried out by private enterprises on areas covered by exploration licences, authorities to enter, authorities to prospect and similar licences and authorities issued by State Governments for exploration of minerals. Also included is exploration by private enterprises which is not directly connected with areas under lease, licence, etc.

(c) *Exploration by government*—relates to exploration of minerals carried out by Federal and State Government Departments, local government authorities and business undertakings operated by those departments or authorities.

Expenditure, metres drilled

The following table shows expenditure and metres drilled on mineral exploration other than for petroleum in Australia during the last six years.

MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Expenditure (\$'000)—						
On drilling	28,824	36,172	35,104	40,888	56,277	57,688
Other	83,714	88,029	82,033	108,605	120,058	143,421
Australia	112,539	124,200	117,137	149,493	176,336	201,109
Metres drilled ('000)—						
Drilled-core	657	733	530	529	638	642
Drilled-non-core	1,854	1,775	1,589	1,434	1,893	1,871
Australia	2,511	2,509	2,119	1,963	2,531	2,513

Petroleum exploration

Source of statistics

These statistics were collected and compiled by the Bureau of Mineral Resources, Geology and Geophysics, Canberra. Statistical and other information relating to petroleum exploration is published by the Bureau of Mineral Resources in *The Petroleum Newsletter* (issued quarterly) and *The Australian Mineral Industry Annual Review*, and by the Australian Bureau of Statistics in its quarterly publication *Petroleum Exploration, Australia* (8409.0).

Scope

Petroleum exploration consists of the search for and/or appraisal of deposits of crude oil and/or natural gas and natural gas liquids by geological, geophysical, geochemical, and other exploration methods, including drilling. Included in the expenditure are the costs of drilling exploratory oil and/or gas wells and the testing of such wells. Also included are the costs of access roads, site construction, permits, licences and similar fees, relevant office buildings and furniture, transportation equipment, storage facilities, plant and equipment, and review work where these are undertaken primarily for purposes of exploration for deposits of petroleum. Details of developmental oil and/or gas wells are excluded.

Operations

The following table shows particulars of expenditure, and wells and metres drilled in petroleum exploration in recent years.

PETROLEUM EXPLORATION

(Source: Bureau of Mineral Resources, Geology and Geophysics)

		1976	1977	1978
Expenditure—				
Private sources	\$'000	49,125	84,970	111,564
Government sources	\$'000	5,131	4,704	4,915
Total	\$'000	54,256	89,674	116,479
Wells—				
Drilled (i.e. those which reached final depth)—				
As oil producers	No.	—	2	7
As gas producers	No.	6	2	3
As oil and gas producers	No.	—	—	—
Plugged and abandoned	No.	11	17	43
Total	No.	17	21	53
Average final depth of wells drilled	m	2,342	2,577	1,973
Drilling still in progress at 31 December (uncompleted holes)	No.	3	3	3
Wells drilled or drilling over 3,000 metres	No.	4	10	10
Metres drilled—				
Completed wells	m	40,198	49,307	104,583
Uncompleted holes	m	7,314	10,176	5,026
Total	m	47,512	59,483	109,609

Mineral processing and treatment

The extraction of minerals from ore deposits, as in mining and quarrying, is only a part of mineral technology, as few minerals can be directly used in the form in which they are mined. In most cases minerals must undergo considerable processing and treatment before utilisation. The sectors of the economy which carry out this work are classified for statistical purposes to Manufacturing Industry (see Chapter 17, Manufacturing and Internal Trade).

Principal products

The following table shows particulars of the production of certain important manufactured products of mineral origin during recent years.

PRODUCTION OF PRINCIPAL MANUFACTURED PRODUCTS OF MINERAL ORIGIN

<i>Commodity</i>		<i>1976-77(a)</i>	<i>1977-78(a)</i>	<i>1978-79(a)</i>
METALS(b)				
Non-ferrous—				
Alumina	'000 tonnes	6,485	6,694	6,921
Refined aluminium	tonnes	236,943	259,592	264,798
Blister copper(c)	"	164,041	167,947	170,458
Refined copper	"	157,452	155,353	137,863
Lead bullion (for export)(c)	"	158,656	155,641	162,185
Refined lead	"	165,582	207,939	217,992
Refined zinc	"	261,914	262,615	308,622
Refined tin	"	5,373	5,994	4,857
Ferrous—				
Pig iron(d)	'000 tonnes	6,958	7,096	7,345
Steel ingots(d)	"	7,473	7,532	7,541
Precious—				
Refined gold(e)	kg	11,127	17,869	15,563
Refined silver	"	253,268	259,217	302,032
FUELS				
Coal products—				
Metallurgical coke	'000 tonnes	4,501	4,310	4,620
Brown coal briquettes	"	1,035	1,064	1,131
Petroleum products—				
Motor spirit	mil. litres	13,056	14,073	14,018
Furnace fuel	'000 tonnes	4,604	4,138	4,343
Automotive distillate	"	5,249	5,613	5,845
Industrial diesel fuel	"	1,242	1,291	1,123
BUILDING MATERIALS				
Clay bricks	millions	2,033	1,911	1,914
Portland cement	'000 tonnes	5,083	5,016	5,085
Plaster of paris	"	384	348	347
Plaster sheets	'000 sq m	49,947	48,034	48,508
CHEMICALS				
Sulphuric acid	'000 tonnes	1,752	1,837	1,940
Caustic soda	tonnes	134,247	130,830	n.p.
Superphosphate(f)	'000 tonnes	3,180	3,430	3,680

(a) Some products exclude production of single establishment manufacturing establishments employing less than four persons and production of establishments predominantly engaged in non-manufacturing activities but which may carry on in a minor way, some manufacturing. (b) Excludes secondary metal with the exception of pig iron and steel ingots. (c) Metallic content. (d) Year ended 31 May. (e) Newly-won gold of Australian origin. (f) Includes double and triple superphosphate and ammonium phosphate expressed in terms of single superphosphate, i.e. 22% P₂O₅ equivalent.

Overseas trade**Exports and imports**

Data of imports and exports of minerals and mineral products have been extracted from the official trade statistics compiled in the Australian Bureau of Statistics. Particulars of the quantities and values (\$f.o.b. port of shipment) of the principal minerals and products exported from and imported into Australia during recent years are shown in the following table.

EXPORTS AND IMPORTS OF PRINCIPAL MINERALS AND MINERAL PRODUCTS

Commodity (a)	Quantity			Value f.o.b. (\$'000)		
	1977-78	1978-79	1979-80p	1977-78	1978-79	1979-80p
EXPORTS (b)						
Non-ferrous—						
Copper—						
Concentrate tonnes	109,157	131,661	157,481	31,996	43,845	88,560
Blister "	7,542	12,094	24,664	14,938	26,244	48,907
Refined "	62,671	53,677	47,953	67,157	76,816	93,821
Matte, slags, etc. "	11,683	4,472	9,003	5,088	2,560	11,966
Lead—						
Concentrate "	140,572	71,996	60,845	41,988	31,682	56,874
Bullion "	157,915	159,637	183,727	116,897	150,618	370,531
Refined "	138,595	152,240	162,832	71,593	101,400	167,644
Slags and residues "	2,589	18,560	12,354	846	2,459	6,863
Zinc—						
Concentrate "	389,247	453,118	460,180	44,751	57,127	77,443
Refined "	184,290	193,826	173,761	96,066	110,963	115,844
Slags and residues "	5,446	6,441	11,872	1,404	1,072	1,566
Tin—						
Concentrate "	14,682	14,244	13,963	49,841	74,678	90,201
Refined "	2,787	1,288	1,991	27,375	14,674	28,101
Aluminium—						
Alumina '000 tonnes	6,368	6,408	7,236	667,606	718,939	970,865
Refined tonnes	75,921	81,026	55,049	69,270	82,219	68,448
Ferrous and alloy—						
Iron ore—						
Pellets '000 tonnes	8,548	8,130	5,797	175,747	165,390	123,827
Fines "	34,999	38,851	41,696	367,089	391,287	492,207
Lump "	31,143	32,565	31,385	409,087	411,021	460,361
Tungsten—						
Scheelite concentrate tonnes	3,341	3,853	3,547	33,813	38,448	31,970
Wolfram concentrate "	767	1,578	1,850	6,861	12,101	21,481
Pig iron "	519,176	784,415	618,818	39,583	70,546	76,208
Steel ingots, blooms "	1,084,249	1,241,224	653,918	137,906	193,911	138,164
Mineral sands—						
Ilmenite concentrate '000 tonnes	1,039	977	1,138	22,503	22,421	23,232
Rutile concentrate "	315	336	345	62,031	63,499	87,780
Zircon concentrate "	366	423	490	30,706	29,920	33,638
Precious—						
Gold, refined kg	8,194	13,900	5,507	40,998	22,329	94,105
Silver, refined "	103,411	89,074	75,276	14,262	16,767	50,888
Coal, black '000 tonnes	37,161	38,888	42,565	1,457,178	1,519,198	1,678,071
Crude oil (c) '000 cu m	210	(d) 370	(d) 127	16,125	40,475	18,818
IMPORTS						
Tin, refined tonnes	215	204	38	1,959	2,701	572
Nickel (pigs, anodes, etc.) "	2,008	1,532	600	8,154	5,905	3,228
Ferro-alloys "	20,048	26,300	55,146	11,378	15,451	39,799
Gold—						
Unrefined bullion (e) kg	1,241	512	780	5,537	2,737	10,571
Refined "	228	40	27	796	267	441
Crude oil (c) '000 cu m	11,261	10,293	11,240	799,135	762,843	1,404,266
Asbestos tonnes	58,265	29,443	23,490	25,978	13,038	11,874
Diamonds—						
Industrial metric carats	833,964	1,187,540	1,096,450	4,263	6,501	8,243
Gemstone "	132,815	63,337	61,121	31,202	31,375	46,198
Phosphate rock '000 tonnes	1,510	2,380	2,181	55,279	83,266	80,324
Potassium fertilisers tonnes	157,397	168,527	215,540	9,137	9,839	15,486
Sulphur "	475,708	424,660	597,128	14,442	15,077	30,832

(a) In addition to the commodities listed, significant quantities of bauxite and nickel ores and concentrates are exported but details are not available for publication. (b) Quantities shown for metallic minerals are gross quantities, not metallic contents. (c) Includes also partly refined oil, topped crudes, enriched crudes and refinery feed stock. (d) Million litres. (e) Gold content.

Considerable quantities of metallic ores, concentrates, slags, and residues are exported from Australia for refining overseas. The following table shows selected items exported during 1979 and their principal metallic content as estimated by assay.

PRINCIPAL METALLIC CONTENTS OF SELECTED ORES AND CONCENTRATES ETC. EXPORTED FROM AUSTRALIA, 1979

<i>Metallic contents—estimated from assay</i>								
<i>Ores and concentrates, etc.</i>	<i>Copper</i>	<i>Lead</i>	<i>Zinc</i>	<i>Tin</i>	<i>Iron</i>	<i>Tungstic Oxides</i>	<i>Gold</i>	<i>Silver</i>
	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	kg	kg
Copper concentrate	41,824	656	544	—	—	—	228	3,156
Blister copper	27,998	—	—	—	—	—	1,823	4,388
Copper matte, slags, etc. (a)	4,369	6,078	—	—	—	—	152	13,157
Lead concentrate	2,931	25,146	3,214	—	—	—	588	36,976
Lead bullion	—	162,235	—	—	—	—	294	354,556
Lead slags and residues	29	2,984	—	32	—	—	64	2,506
Zinc concentrate	—	3,983	183,801	—	—	—	—	19,360
Zinc slags and residues	—	—	2,277	—	—	—	—	—
Tin concentrate	2	—	—	6,435	—	—	—	—
Iron ore—								
Pellets	—	—	—	—	5,372	—	—	—
Fines	—	—	—	—	23,606	—	—	—
Lump	—	—	—	—	20,429	—	—	—
Scheelite concentrate	—	—	—	—	—	2,438	—	—
Wolfram concentrate	—	—	—	—	—	1,152	—	—
Total metallic content	77,153	201,082	189,836	6,467	49,407	3,590	3,149	434,099

(a) Includes copper matte, copper slags and residues and copper-lead dross and speiss.

Prices

The following table shows average prices of some principal refined metals and ores and concentrates on Australian and certain major overseas markets. Prices of minerals such as iron ore, coal and bauxite are not shown as these minerals are commonly sold on a contract basis rather than on an open market basis.

AVERAGE DAILY PRICES OF SELECTED METALS AND METALLIC ORES AND CONCENTRATES: AUSTRALIAN AND OVERSEAS MARKETS(a)

(Source: Bureau of Mineral Resources, Geology and Geophysics)

METALS(a)									
<i>Period</i>	<i>Tin</i>		<i>Nickel</i>	<i>Aluminium</i>		<i>Gold</i>		<i>Silver</i>	
	<i>Aust.</i>	<i>L.M.E.</i>		<i>Aust.</i>	<i>U.S.A.</i>	<i>Premium</i>	<i>U.K.</i>	<i>Aust.</i>	<i>U.K.</i>
	<i>(\$A—tonne)</i>	<i>(£ Stg—metric ton)</i>		<i>(\$A—tonne)</i>	<i>(USc—lb)</i>	<i>(£A—f. oz)</i>	<i>(\$US—f. oz)</i>	<i>(\$A—kg)</i>	<i>(Stg new pence—f. oz)</i>
1978	11,666.14	6,701.50	2,06	1,005.46	50.81	168.97	193.39	153.37	282.20
1979	14,157.08	7,287.52	2,72	1,160.59	70.33	266.32	307.19	300.54	519.15
1979									
Highest	15,933.00	8,150.00	3.18	1,244.00	78.00	466.80	524.00	581.72	1,446.85
Lowest	12,193.00	6,340.00	2.00	1,074.00	55.50	190.65	216.55	170.61	296.40
<i>Period</i>	<i>Copper</i>		<i>Lead</i>		<i>Zinc</i>		<i>Prod.</i>	<i>U.S.A.</i>	
	<i>Aust.</i>	<i>L.M.E.</i>	<i>Aust.</i>	<i>L.M.E.</i>	<i>Aust.</i>	<i>L.M.E.</i>		<i>(Stg—ton)</i>	<i>(USc—lb)</i>
	<i>(\$A—tonne)</i>	<i>(£ Stg—metric ton)</i>	<i>(\$A—tonne)</i>	<i>(£ Stg—metric ton)</i>	<i>(\$A—tonne)</i>	<i>(£ Stg—metric ton)</i>			
1978	1,189.88	710.13	563.19	274.50	33.69	534.30	606.89	31.13	
1979	1,767.48	936.42	1,031.21	567.06	53.58	712.55	792.92	37.67	
1979									
Highest	2,040.00	1,110.00	1,150.00	709.00	63.00	773.00	845.00	39.50	
Lowest	1,340.00	765.00	700.00	455.00	38.00	632.00	720.00	32.50	

For footnotes see next page.

AVERAGE DAILY PRICES OF SELECTED METALS AND METALLIC ORES AND CONCENTRATES:
AUSTRALIAN AND OVERSEAS MARKETS(a)—*continued*

ORES AND CONCENTRATES

Period	Tin Aust. (\$A-mtu)	Wolfram Europe (\$Stg-mtu)	Ilmenite Europe (\$A-metric ton)	Rutile Europe (\$A-metric ton)	Zircon Europe (\$A-metric ton)
1978	102.26	139.08-145.45	16.58-18.83	188.33-201.66	65.00-75.00
1979	124.60	136.83-142.16	17.00-19.00	260.00-290.00	53.75-63.75
1979					
Highest	138.20	151.00	19.00	350.00	75.00
Lowest	109.97	120.00	17.00	230.00	50.00

(a) Where a daily price does not actually exist for a commodity, daily prices have been imputed from price data which are available.

NOTE: Prices data shown are those quoted in the relevant markets and are mainly derived from information collected and compiled by the Bureau of Mineral Resources. Overseas data are supplied to the Bureau of Mineral Resources by the *Metal Bulletin* and *Metals Week*.

REVIEW OF RECENT DEVELOPMENTS IN THE AUSTRALIAN MINERAL INDUSTRY

(Source: Bureau of Mineral Resources, Geology and Geophysics)

Major developments in the Australian mineral industry, particularly during 1979 and the first half of 1980, are reviewed briefly in subsequent parts of this section. Additional information on developments in the industry is available in *Australian Mineral Industry Annual Review 1978* published by the Bureau of Mineral Resources, Geology and Geophysics. That publication contains comprehensive reviews of mineral commodities of importance to the Australian economy, as well as a general review of the industry's performance during the year.

General Review of 1979

All the major economic indications of the Australian mining industry rose during 1979, indicating a general improvement in world trading conditions and an increased demand for Australian mineral commodities. Ex-mine value of output rose by 28 per cent to \$6,389 million and value added rose by 14 per cent to \$4,445 million. Quantity and value increases were recorded for black coal, base metals, iron ore, manganese ore, tin concentrate, uranium oxide, and mineral sands except for ilmenite, the quantity of which decreased slightly. Nickel production again decreased, reflecting excessive world stocks of the metal.

'Mines and Quarries' was again the largest single export earning group in 1979-80 accounting for 24.9 per cent of total exports. This figure however, excludes some exports by the smelting and refining section of the industry.

Imports—1979. The value of imports rose by 26 per cent to \$1,307 million. Crude oil remained the largest single mineral import at \$1,032 million, an increase of 31 per cent over the previous year. Other significant mineral imports were asbestos, gem diamonds, iron and steel, refined nickel, and the fertilizer requirements phosphate rock, potassium salts and elemental sulphur. Imports of mineral primary products accounted for 8.9 per cent of the total value of merchandise imports compared with 8.1 per cent in 1978.

Exports—1979. Exports rose by 19 per cent to \$5,862 million, the largest increase in several years. Most leading commodities performed strongly, an exception being zinc where markets remained weak as stocks continued to increase. Exports of zinc declined considerably. Black coal remained the largest single export earner in 1979, its value increasing by 9 per cent to \$1,612 million: it accounted for 27 per cent of the total value of mineral exports. Black coal was followed by iron ore, which increased in value by 11 per cent to \$1,008 million, and by alumina whose value increased by 15 per cent to \$783 million. These three items in 1979 accounted for 58 per cent of the total value of exports of mineral primary products. The surplus in the balance of mineral trade increased from \$3,888 million in 1978 to \$4,555 million in 1979.

Bauxite and Alumina

In 1979, production of bauxite increased to more than 27.6 million tonnes, alumina production to 7.4 million tonnes, and aluminium to 269,575 tonnes. Australia was again the world's largest producer of bauxite and alumina.

An alumina refinery of initial rated capacity of 500,000 tonnes per year will be commissioned in 1981 at Wagerup, W.A. Capacity will be increased over 15 years to 2 million tonnes per year. Bauxite will be supplied from Willowdale, W.A. All alumina produced will be exported.

The first stage of the alumina refinery at Worsley, W.A., will be completed in 1982. Initial rated capacity is one million tonnes per year, and ultimate capacity two million tonnes per year. Bauxite will be supplied from Mount Saddleback, W.A. All alumina produced will be exported.

The production capacity of the aluminium smelter at Kurri Kurri, N.S.W., is to be increased from 68,000 tonnes to 90,000 tonnes per year by 1981. The aluminium smelter to be constructed at Gladstone, Queensland will have a first stage design capacity of 103,000 tonnes per year and will expand to 412,000 tonnes capacity by the end of the decade. The rated capacity of the other Australian aluminium smelter, at Point Henry, Victoria, supplied with Western Australian alumina, is 100,000 tonnes per year and will be expanded to 165,000 tonnes per year by early 1981.

The smelter to be built at Portland (Victoria) will have an initial capacity of 120,000 tonnes per year and be completed in 1983. Ultimate capacity will be about 500,000 tonnes per year by 1990. A second smelter to be built at Gladstone (Queensland) will also be completed in 1983 and have an initial capacity of about 100,000 tonnes per year; it will expand to 296,000 tonnes per year in the late 1980's. Two smelters will be constructed near Newcastle (New South Wales). The Tomago Smelter, to be completed in 1984, will have an initial capacity of 110,000 tonnes annually, and will be expanded to 280,000 tonnes per year in 1986. The Lochinvar Smelter, to be completed in 1984 will have an initial capacity of 236,000 tonnes per year to be expanded to 360,000 tonnes.

Copper

A summary of the copper mining industry in Australia 1953–1975 and the sufficiency of present ore reserves was published in the *Australian Mineral Industry Quarterly*, Vol. 30 No. 1.

In 1979 mine production of copper increased to 234,735 tonnes.

Drilling at Teutonic Bore, W.A., has revealed a deposit of between 2–3 million tonnes of ore containing 3.5 per cent copper, 9.5 per cent zinc, and 150g/t silver. A mine will be in production in mid-1981, producing about 300,000 tonnes of ore annually. Two substantial copper-zinc deposits have been indicated by drilling near Benambra, Victoria.

Exploration drilling is continuing at the copper-uranium-gold deposit at the Olympic Dam prospect, Roxby Downs, S.A. At Tennant Creek, N.T. the Warrego mine will be expanded and the Gecko mine developed with the emphasis on copper rather than gold as before. The smelter will be recommissioned in 1980 and will supply 15,000 tonnes of blister copper annually to Japan.

Copper production at the CSA mine at Cobar, N.S.W., is being expanded by 50 per cent and will increase ore production to more than 750,000 tonnes per year.

Iron

A summary of growth of the Australian iron ore industry 1965 to 1975 has been published in the *Australian Mineral Industry Quarterly*, Vol. 29 No. 1.

Mine production of iron ore in 1979 was 91.7 million tonnes, nearly 10 per cent higher than in 1978. Export of iron ore pellets was 78.3 million tonnes valued at \$1,008 million. Australia was the world's largest exporter of iron ore in 1979 and the second largest producer.

Silver, lead and zinc

Mine production of lead and zinc metal in 1979 was 417,485 tonnes and 531,269 tonnes respectively, both greater than the 1978 production.

A summary of the Australian lead and zinc industry from 1953 to 1973 was published in the *Australian Mineral Industry Quarterly*, Vol. 27 No. 4.

A decline shaft is being sunk at the Sorby Hills, W.A., lead deposit. The copper-lead-zinc mine at Que River, Tasmania, with reserves of over 3 million tonnes (7 per cent lead; 12.5 per cent zinc; 171 grams/tonnes silver; 3.4 grams/tonnes gold, 0.3 per cent copper) will commence production in 1981.

Black coal

There has been a significant revival in the Australian black coal industry in recent years as a result of increased exports and increased consumption of black coal in iron and steel production and electricity generation. These increases have more than balanced reduced consumption in some applications due to competition from fuel oil.

The expansion of the export trade has been of major significance. In 1955 exports were about 200,000 tonnes valued at about \$1.7 million; in 1979 exports were 40.5 million tonnes valued at \$1,590 million. These increased exports have been largely to Japan and Europe, but tonnages of steaming coal greater than previously are being exported to U.S.A. and south-east Asia for use in the iron and steel industry. As a result of this increased demand, new mines have been opened and others are under

development in Queensland and New South Wales. Exploration for coal has been stimulated and further rich deposits of coking coal and steaming coal have been located. Raw coal production in 1979 increased to 93.5 million tonnes; saleable coal output totalled 74.4 million tonnes.

A paper entitled *Coal Exploration in Australia* has been published in the *Australian Mineral Industry Quarterly*, Vol. 31, No. 1.

Petroleum

At the end of 1979, there were thirteen oil fields in production: Moonie, Alton, Conloi and Bennett in Queensland; Barrow Island, Yardarino and Dongara in Western Australia; and Barracouta, Halibut, Mackerel, Cobia, Tuna and Kingfish offshore from Victoria in Bass Strait. The production of stabilised crude oil in 1978 amounted to 25.1 million cubic metres representing 71 per cent of the year's total input to Australian refineries. In 1979, it was 25.4 million cubic metres, 70.0 per cent of that year's refinery input. The average daily production of 69,006 cubic metres in 1978 was one per cent higher than in 1977; in 1979, it was 69,589 cubic metres, 0.8 per cent higher than in 1978. Natural gas production in 1978 amounted to 7,320 million cubic metres, 11.0 per cent more than in 1977. In 1979, it was 8,381 million cubic metres, 14.5 per cent more than in 1978. About 12 per cent of this, compared with about 13 per cent in 1978 was used in the field and processing plants and the balance was sold, mainly as fuel, to markets in Victoria, South Australia, Western Australia, New South Wales and Queensland.

Twenty-one offshore exploration wells were drilled in 1979, one fewer than in 1978; metres drilled, however, increased from 56,900 in 1978 to 76,954 in 1979. The year saw the start of exploration drilling in the deep waters of the Exmouth Plateau off northwest Western Australia. This work is being undertaken by three of the world's twelve dynamically positioned drillships. The first well in the Exmouth Plateau program was Zeewulf No. 1 in 1,188 m of water, and by the end of the year a further six wells had been drilled in water ranging from 960 m to 1,383 m deep.

Offshore development drilling continued in the Gippsland Basin on the Mackerel platform (2 wells) and Tuna platform (7 wells).

Onshore exploration drilling activity fell from 31 wells in 1978 to 30 in 1979, although metres drilled increased from 54,635 to 61,845. The drilling was mainly centred in the Bowen-Surat Basin in Queensland. Forty-seven onshore development wells were drilled, 20 more than in 1978 (Queensland 3, South Australia 4, Western Australia (Barrow Island) 40). Metres drilled for onshore development drilling fell from 54,406 to 40,961, because of the predominance of shallow wells in the Barrow Island drilling program.

During 1979 significant onshore gas discoveries were made at Warroon No. 1 and Beldene No. 1 in the Bowen-Surat Basin in Queensland, at North Paaratte No. 1 in the Otway Basin in Victoria, and in North Dullingari No. 1 and Wilpinnie No. 1 in the Cooper Basin in South Australia. Oil was discovered in Thomby Creek No. 1, about 10 km south-southwest of the Boxleigh gas field in Queensland and in North Dullingari No. 1 in the Cooper Basin.

Of the seven wells drilled in the deep waters of the Exmouth Plateau, two (Investigator and Jupiter) had minor gas shows and three (Resolution, Gandara, and Mercury) were dry. Zeewulf No. 1 found gas in two formation tests but the thin sands were considered by the operators (Esso/BHP) to be non-commercial. Scarborough No. 1 (Esso/BHP) found considerable gas reserves and is considered a gas discovery, although it is currently classed as non-commercial because the completion technology and equipment for that water depth (912 m) is not yet available. An eighth well on the plateau, Vinck No. 1, was being drilled at the end of 1979.

In the Cobia No. 2 well (Gippsland Basin) the year saw commercial oil production from Australia's first subsea completion. The subsea wellhead was installed and tied in to the Mackerel platform by a submarine pipeline. Initial production from Cobia started in July 1979. At the end of 1979 the well was producing oil at the rate of some 367 m³ (2,311 barrels)/day.

Nickel

A summary of the growth of the Australian nickel industry was published in the *Australian Mineral Industry Quarterly*, Vol. 28 No. 4.

Mine production of nickel in ore and concentrates was 73,323 tonnes in 1979. Australia was the fourth largest world producer. Production from the new Agnew, W. A., mine will be between 10,000 to 15,000 tonnes per year 'contained nickel' by 1984. Development of Mount Windarra continues; production will commence when market conditions become favourable. Production commenced at Agnew, W.A., in 1978. The concentrates are toll-smeltered at the Kalgoorlie smelter, the capacity of which was increased.

Mineral sands

The history of the mineral sands industry is presented in the *Australian Mineral Industry Quarterly*, Vol. 25 No. 1.

Considerable expansion from 43,000 to 58,000 tonnes per year has been completed in the Western Australian production capacity for the beneficiation of ilmenite. Australia is still the world's largest producer and exporter of ilmenite, zircon and monazite by the amalgamation of operating companies, particularly in Western Australia.

Diamonds

Diamond exploration in the Kimberley region of Western Australia has resulted in the discovery of a number of kimberlite pipes. On the basis of diamonds found, Conzinc Riotinto of Australia has set up a pilot plant to treat kimberlite at Ellendale, W.A. Another plant was established at Argyle, W.A., to bulk-test the diamond-bearing alluvials and kimberlite in the Smoke Creek area.

Uranium

Construction of a metallurgical pilot plant at Kalgoorlie, W.A., to test ore from Yeelirrie, W.A., began in 1979. The Nabarlek, N.T., ore body has been mined out and the ore stockpiled for onsite yellowcake production over the next eight years. Mine construction at the Ranger Deposit, also in the Pine Creek Geosyncline, continued in 1979 and yellowcake production is expected to commence in late 1981.

REFERENCES

Further detailed statistics and information on the subjects dealt with in this chapter are contained in the annual printed publication *The Australian Mineral Industry Annual Review* and other publications issued by the Bureau of Mineral Resources, Geology and Geophysics, which also issues, in conjunction with the ABS a quarterly publication, *Australian Mineral Industry Quarterly* (8403.0). The annual ABS statistical publications, *Census of Mining Establishments, Summary of Operations, Australia (Preliminary)* (8401.0), *Census of Mining Establishments, Details of Operations, by Industry Class, Australia* (8402.0); *Mineral Production, Australia* (8405.0); *Mineral Exploration, Australia* (8407.0) and the irregular publication *Census of Mining Establishments, Industry Concentrations Statistics, Australia* (8411.0), contains economic statistics of the industry prepared and published as soon as possible after the data have been compiled. A monthly statistical publication, *Minerals and Mineral Products, Australia* (8404.0) is issued also, and other current statistics on mining or mine products are contained in the *Monthly Summary of Statistics, Australia* (1304.0), the *Digest of Current Economic Statistics, Australia* (1305.0), and the monthly publication *Production Statistics, Australia* (8302.0).

CHAPTER 17

MANUFACTURING AND INTERNAL TRADE

MANUFACTURING

Introduction

History

An historical summary of the development of the manufacturing industry in Australia since 1901 is contained in earlier issues of the Year Book.

Decentralisation and manufacturing industries

The decentralisation of secondary industries, and the steps taken by the Commonwealth and State Governments towards its development, are referred to in previous issues of the Year Book.

Bounties on manufacture

Bounties are paid by the Commonwealth Government to encourage local manufacture of certain products. The statutory provisions usually fix a term of operation of the bounty, provide for payment at a rate varying according to changes in the corresponding customs duty, specify the annual maximum amount of bounty payable, and require the bounty to be withheld or reduced if a manufacturer's net profit in production of the commodity exceeds a certain rate, or if rates of wages and conditions of employment in production of the commodity do not conform to prescribed standards. (See Chapter 22, Public Finance, for products on which bounties are paid.)

Government authorities

Industries Assistance Commission

The Industries Assistance Commission is a statutory authority which came into existence on 1 January 1974 as a result of a passing of the *Industries Assistance Commission Act 1973* by the Commonwealth Parliament. The Commission replaced the Tariff Board, which since 1921 had been responsible for advising the Government on assistance for industries mainly in the secondary sector of the economy. (The *Industries Assistance Commission Act 1973* was amended in March 1978.)

The Commission is an advisory authority, advising the Government. Its functions are to hold inquiries and make reports to the Government in respect to matters of assistance to industries in the primary, secondary and tertiary sectors of the economy and in respect to other matters referred to the Commission by the Government. The Government is required to seek the Commission's advice before it makes changes in the long term assistance afforded industries; but the Government is not obliged to accept the Commission's advice.

References from the Government requiring the Commission to inquire and report on certain matters mainly arise from representations to the Government from organisations, companies or individuals seeking assistance. References are also initiated by the Government and the Commission itself has the power to initiate an inquiry.

The receipt of a reference from the Government is the official document directing the Commission to inquire and report on matters in accordance with the terms of reference and the guidelines as set by the Government.

Public hearings are held by the Commission in Canberra and in capital cities throughout Australia. At these hearings evidence is taken on oath or affirmation. The Act requires the Commission to take into consideration only sworn evidence. The inquiry subject and the date and location of public hearings are advertised in the press and advised by Commission circular.

If after receiving a report from the Commission, the Government decides that assistance afforded a particular industry should be changed, it introduces a proposal to this effect in Parliament. Thus the final responsibility for altering assistance given to particular industries within Australia rests with Parliament.

Copies of the Commission's reports, when released for publication by the Government, are sold by Australian Government Publishing Service bookshops.

The Commission is also required to report annually to the Government on its operations and on the general structure of industry assistance within Australia and its effects on the economy.

Temporary Assistance Authority

The Temporary Assistance Authority (TAA), which replaced the Special Advisory Authority set up under the Tariff Board Act, came into operation on 1 January 1974 under the provisions of the *Industries Assistance Commission Act 1973* (since amended).

The main function of the TAA is to undertake inquiries and submit reports to the Government within 45 days of receipt of a reference from the Government on the question of whether urgent action is necessary to provide assistance to any industry that is experiencing difficulty due to the importation of specified goods. If urgent action is necessary the Authority recommends the nature and extent of the assistance to be provided.

The Authority's reports on individual inquiries are normally made public once the Government's decision is announced and are available, as is the annual report, from the Australian Government Publishing Service bookshops.

Bureau of Industry Economics

In September 1976, the Australian Government announced that the Bureau of Industry Economics would be established as a centre for research into the manufacturing and commerce sectors. The Bureau began operations in May 1977. Being formally attached to the Department of Industry and Commerce, it has professional independence in the conduct and reporting of its research.

The major objectives of the Bureau are to:

- carry out research work needed to assist the Government in the formation of industrial policy
- assist the Industries Assistance Commission (IAC) and other government bodies by making submissions on the results of its research
- attract a high standard of professional staff and publish its research findings
- complement the work of other research agencies and co-operate with universities and colleges in developing research programs.

The Bureau is also concerned with developments in mining, rural industry, public services (for example education, health, defence) and trade in goods and services which are linked with the manufacturing and commerce sectors.

A Council has been set up to advise the Minister of Industry and Commerce about the Bureau's work and to ensure that it is relevant to contemporary and long term issues in manufacturing and commerce. Members of the Council are drawn from a wide range of industries and backgrounds, including the universities and the trade union movement. In this way the Council of Advice provides a major link between the Bureau and the community. The Council assists with the development of the work of the Bureau and the effective dissemination of the results of the Bureau's work.

In its investigations, the Bureau principally makes use of economics and related disciplines. Technical and social factors affecting industry structure and performance are also taken into account.

The techniques of economic analysis used include supply and demand estimation, industry structure-performance relationships, input-output analysis, econometrics, cost-benefit methods and socio-demographic investigations. In addition, the Bureau is associated with the large-scale models of the Australian economy under development by the IMPACT team and at the Melbourne University Institute of Applied Economic and Social Research.

The staff of the Bureau includes officers with backgrounds in business, consultancy, government and university teaching and research. An initial nucleus of about 30 persons has been established and it is envisaged that additional recruitment will bring the size of the Bureau to about 100 persons within a few years.

Project control and resource commitments are determined by means of a feasibility study. Within the broad topic under investigation, several specific projects may be justified in relation to previous research findings, data availability, relevance to long-term policy issues and overall budget constraints. Some projects require special surveys where existing data sources are inadequate or more detailed information is required for particular industries. In certain projects the Bureau will undertake joint research with organisations in the private sector and consultants may be engaged where this will significantly enhance the quality of the research or will remedy any lack of in-house expertise.

When initial findings are available, work-in-progress papers are prepared to discuss the methods employed and to ensure that specialist qualified observers have an opportunity to comment on objectives of the research programme. Final reports on projects will be widely distributed with the aim of informing industry groups, government policy makers and teaching and research institutions about industrial and commercial developments.

Standardisation

The *Commonwealth Scientific and Industrial Research Organization* has functions concerned with the improvement of efficiency in industrial operations. For further particulars see Chapter 25, Science and Technology, in this Year Book.

The *Standards Association of Australia* is the organisation responsible for the preparation, on a national basis, of Australian standards for materials and products and standard codes of practice.

Formed as the Australian Commonwealth Engineering Standards Association in 1922, it was reconstituted as the Standards Association of Australia in 1929, and was incorporated by Royal Charter in 1950. It is an independent body having the full recognition and support of the Commonwealth and State Governments and of industry. Approximately half its funds are provided by Commonwealth Government grant, the remainder coming primarily from membership subscriptions and from the sale of publications. Organisations, companies, and individuals are eligible for subscribing membership.

The Association is controlled by a Council comprising representatives from Commonwealth and State Governments and their departments, from associations of manufacturing and commercial interests, and from professional institutions. Standards are prepared by committees composed of expert representatives from the interests associated with the subject under consideration. This assistance is on a voluntary basis.

Preparation of a standard is undertaken in response to a request from any responsible source, subject to verification that the standard will meet a genuine need. Standards may relate to one or more of several aspects of industrial practice such as terminology, test methods, dimensions, specifications of performance and quality of products, and safety or design codes. In general, standards derive authority from voluntary adoption based on their intrinsic merit, but in many cases where safety of life or property or consumer protection is involved, they may have compulsory application through statutory reference.

The Association is the owner of a registered certification trade mark covering conformity of products to standards. Manufacturers of products covered by Australian standards may obtain a licence to use the Australian Standard Mark, under conditions established by the Association.

The Association has international affiliations and is a member, representing Australia, of the International Organization for Standardization (ISO) and of the International Electrotechnical Commission (IEC). Close links are maintained with overseas standards organisations, and the Association acts as Australian agent for the procurement of ISO and IEC publications and the standards of other countries.

The Association has two specialised libraries, one in Sydney and one in Melbourne, containing the national standards of all countries with standards organisations. These libraries provide necessary material for committee work and a free information service to those concerned with standards.

The headquarters office of the Association is in Sydney, and there is a major branch office in Melbourne. Branch offices are located also in other capital cities and at Newcastle, New South Wales.

The *National Standards Commission* was established in 1948 and is presently located at North Ryde, Sydney. The original purpose was to advise the Minister for Science and the Environment on matters relating to weights and measures. It operated under the *Weights and Measures (National Standards) Act*, 1948. This was replaced in 1960 with a new Act which took account of advances in measuring technology and its impact in Australia. Amendments to the 1960 Act were made in 1966 and 1978. The present role of the Commission provides for the establishment and use throughout Australia of uniform units of measurement, uniform standards of measurement of physical quantities and for the examination and approval of the patterns of measuring instruments used for trade in order to control design and quality.

The Commission has close contacts with all States and Territorial weights and measures authorities who ensure by regular inspections that trade instruments continue to comply with the approved patterns.

Close liaison is also maintained with the manufacturing industry, retailers, consumers and other users to ensure a balance between design, quality and cost.

The Commission has regular contacts overseas and provides the Australian member accredited to the International Organisation of Legal Metrology. The Commission is directed by a board of five part-time Commissioners.

The *National Association of Testing Authorities* (NATA) organises testing facilities throughout Australia to serve private and governmental needs. Membership is open to authorities whose testing laboratories conform to the standards of staffing and operations defined by the Association. Testing authorities may register their laboratories voluntarily. The Association assesses the competence of the laboratories and ensures that their standards of competence are maintained. Certificates of test issued

by registered laboratories may be endorsed in the name of the Association. NATA endorsed test certificates are generally accepted by governmental, industrial and commercial interests.

Laboratories are registered for performance of specific tests in the fields of acoustic and vibration measurement, biological testing, chemical testing, electrical testing, heat and temperature measurement, mechanical testing, metrology, non-destructive testing and optics and photometry.

The *Industrial Design Council of Australia* (IDCA) is engaged in activities aimed at encouraging better design in Australian-made goods and fostering a wider appreciation of good design throughout the community. The Council is representative of industry, commerce and government, together with designers and educationists. It is financed by donations from industry and commerce, and by Commonwealth and State Government grants.

The Council's Field Advisory Service has a diagnostic and counselling role, assisting smaller manufacturers throughout Australia with product development policy and direction. Field advisers are based in IDCA State offices in Sydney, Melbourne, Brisbane, Adelaide, Perth and Hobart.

The Australian Design Award is granted for high-quality products of Australian design and manufacture. An index of these products is held in each State office. These products are also displayed in Australian Design Centres.

Regular contact is maintained with senior executives of manufacturing companies, departmental officers and designers through the Design Delegate program of lectures. Inquirers seeking professional design services are referred to qualified industrial designers. The Council is also concerned with raising the standard of training in industrial design in co-operation with education authorities.

The Council's National Secretariat is in Melbourne.

The *Australian Standard Commodity Classification* (ASCC) has been developed by the ABS to enable users to compare statistics of commodities produced in Australia with statistics of commodities imported and exported.

The ASCC manual (1207.0) links production, import and export items at their most detailed level of comparability in the form of standard (ASCC) commodity items. In a large number of cases, however, due to the differences between production, import and export items, comparability is only achieved at fairly broad aggregate levels. In the ASCC, commodities are grouped under industries (as defined in the Australian Standard Industrial Classification (ASIC)) in which they are typically produced.

The first edition of the ASCC was restricted to commodities originating in manufacturing industries. The second edition, which relates to the year 1977-78 has been extended to also include commodities originating in the agriculture, forestry, fishing, hunting and mining industries. An updated edition of the ASCC manual is expected to be published each year.

The classification will continue to be developed over the coming years to improve the alignment between production, imports and exports.

The ABS also publishes a statistical publication *Comparable Commodity Statistics of Production, Imports and Exports, Australia* (1310.0) containing commodity statistics of Australian production, imports and exports based on the standard (ASCC) items contained in the ASCC manual. The second edition of this publication published in early 1981 relates to the year 1977-78 and contains Australian production, import and export commodity statistics of manufactured goods classified in accordance with the standard (ASCC) items in the second edition of the ASCC manual. A similar statistical publication containing Australian production, import and export commodity statistics of goods originating in the agriculture, forestry, fishing, hunting and mining industries, classified in accordance with standard (ASCC) items in the 1977-78 edition of the ASCC manual, is expected to be published in 1981.

The *Australian Standard Industrial Classification* (ASIC) (1201.0 and 1202.0) was developed by the ABS as part of its program for the integration of economic statistics. Since its introduction by the ABS in the processing of the 1969 Integrated Economic Censuses, the ASIC has gained a wide acceptance by users of statistics outside the ABS and has been progressively applied in most ABS collections and compilations where data are classified by industry.

The ASIC has been devised for the purpose of classifying statistical units by industry. It has been designed primarily as a system for the classification of establishments (e.g. individual mines, factories, shops, etc.) although it may also be used for classifying other economic units such as enterprises.

The fundamental concept of this classification system is that an industry (i.e. an individual class, group, etc.) in the ASIC is composed of establishments that have been classified to it. Each industry class is defined in terms of the predominant activities of the establishment classified to it and these activities are specified in the ASIC as *primary activities* of the individual industry classes. These industry definitions are revised only at relatively infrequent intervals so as to minimise the disruption to time series data assembled on an ASIC basis.

As a result of a recent comprehensive review of the classification, the 1978 Edition of ASIC has been published. This revised edition is being progressively introduced in all relevant ABS collections.

Productivity action

For information about the Productivity Group Movement and Productivity Promotion Council of Australia see Chapter 25, Science and Technology.

Manufacturing industry statistics**Manufacturing industry statistics from 1901 to 1967-68**

A series of substantially uniform statistics exist from 1901 up until 1967-68 when the framework within which manufacturing statistics were collected was changed. The following table contains a summary of statistics on manufacturing activities in Australia over that period. More detailed manufacturing statistics in respect of this period were included in Year Book No. 57, pages 721-9, and in earlier issues.

MANUFACTURING INDUSTRY: AUSTRALIA(a), 1901 TO 1967-68

Year	Factories	Employment(b)	Salaries and wages paid(c)	Value of—				
				Materials and fuel used	Output	Production (d)	Land and buildings (e)	Plant and machinery (e)
	No.	'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1901 . . .	11,143	198	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1911 . . .	14,455	312	55,056	163,526	266,044	102,518	65,402	63,032
1920-21 . .	17,113	367	125,864	427,118	647,986	220,868	121,662	137,310
1930-31 . .	21,751	339	124,910	344,978	581,598	236,620	224,422	248,996
1940-41 . .	27,300	650	275,838	773,762	1,289,590	515,828	288,188	322,712
1950-51 . .	43,147	969	983,436	2,613,926	4,301,670	1,687,744	605,570	673,230
1960-61 . .	57,782	1,145	2,289,230	6,115,930	10,465,765	4,349,835	2,389,140	2,785,565
1963-64 . .	59,375	1,210	2,651,620	7,372,682	12,642,686	5,270,003	3,204,685	3,480,673
1964-65 . .	61,042	1,269	2,993,709	8,140,600	14,037,355	5,896,754	3,505,859	3,766,253
1965-66 . .	61,686	1,294	3,162,769	8,437,958	14,689,819	6,251,861	3,776,590	4,154,652
1966-67 . .	62,500	1,309	3,407,683	9,015,844	15,892,845	6,877,001	4,061,193	4,706,843
1967-68 . .	62,954	1,331	3,665,902	9,663,217	17,094,070	7,430,853	4,303,156	4,962,203

(a) Before 1 July 1964, excludes Northern Territory and Australian Capital Territory. (b) 1901 and 1911—average employment during period of operation. Later years relate to average employment over whole year. Working proprietors are included in all years. (c) Excludes amounts drawn by working proprietors. (d) Value added in process of manufacture (i.e. value of output less value of materials and fuel, etc. used). (e) Depreciated or book values at 30 June. Includes estimated values of rented premises and machinery.

Manufacturing industry statistics from 1968-69

As from the year ended June 1969, the Censuses of Manufacturing, Electricity and Gas have been conducted within the framework of the integrated economic censuses which include the Censuses of Mining, Retail Trade and Selected Services, and Wholesale Trade. As a result, manufacturing industry statistics for 1968-69 and subsequent years are not directly comparable with previous years.

The standardisation of census units in the integration of economic censuses means that the basic census unit (the establishment), in general, now covers all the operations carried on under the one ownership at a single physical location. The manufacturing establishment is thus one predominantly engaged in manufacturing, but the data supplied for it now cover (with a few exceptions) all activities at the location. The establishment statistics also include data relating to separately located administrative offices and ancillary units serving the establishment and forming part of the business (enterprise) which owns and operates the establishment.

Census units were classified to industry according to the Australian Standard Industrial Classification (ASIC), described in the ABS publication *Australian Standard Industrial Classification* (1201.0 and 1202.0). The ASIC defines the industries in the economy for statistical purposes, thus permitting the scope of the different economic censuses to be specified without gaps or overlapping between them. It also sets out standard rules for identifying the statistical units (e.g. establishments) and for coding them to the industries of the classification. This classification is broadly convertible to the International Standard Industrial Classification adopted by the United Nations Statistical Commission. The adoption of the ASIC has resulted in changes in scope between the integrated economic censuses introduced in 1968-69 and the individual economic censuses conducted in previous years.

In the 1967-68 census there were approximately 62,600 manufacturing establishments (excluding electricity and gas establishments) with employment of 1,276,000. Of these, approximately 35,400, with employment of 1,097,000 would have been included in the 1967-68 census if ASIC had been used.

MANUFACTURING ESTABLISHMENTS: SUMMARY OF OPERATIONS, AUSTRALIA, 1968-69 to 1978-79

Census year	Establishments at 30 June	Average employment over whole year (a)			Wages and salaries (b)	Turn-over	Stocks		Purchases, transfers in and selected expenses (c)	Value added (c)	Fixed capital expenditure less disposals
		Males	Females	Persons			Opening	Closing			
	No.	No.	No.	No.	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1968-69 . . .	35,939	927,211	334,066	1,261,277	3,908.1	18,646.5	3,102.5	3,319.6	11,514.9	7,348.8	903.0
1969-70 . . .	35,674	950,055	345,578	1,295,633	4,328.7	20,687.6	3,322.8	3,634.7	12,862.3	8,137.1	1,030.7
1970-71 . . .					No manufacturing census was conducted in respect of this year.						
1971-72 . . .	36,206	953,967	347,672	1,301,639	5,250.0	23,620.4	3,920.1	4,182.5	14,374.8	9,508.1	1,297.8
1972-73 . . .	36,437	951,610	345,485	1,297,095	5,820.0	26,352.4	4,187.2	4,306.3	15,963.0	10,508.5	1,244.4
1973-74 . . .	37,143	969,338	369,041	1,338,379	7,176.4	31,246.7	4,299.1	5,268.5	19,329.8	12,886.3	1,215.5
1974-75(d) . . .	36,836	931,367	333,440	1,264,807	8,588.0	35,468.0	5,267.2	6,572.2	21,712.3	15,060.7	1,456.4
1974-75(e) . . .	26,973	916,896	328,341	1,245,237	8,533.5	35,133.7	5,241.0	6,542.7	21,522.3	14,913.1	1,445.9
1975-76 . . .	27,507	888,523	311,917	1,200,440	9,472.4	39,485.3	6,581.1	7,023.3	23,371.7	16,555.8	1,451.7
1976-77 . . .	26,780	876,111	299,720	1,175,831	10,535.8	44,814.3	6,985.1	7,996.8	27,010.0	18,816.1	1,548.0
1977-78(f) . . .	25,998	855,448	290,237	1,145,685	11,151.4	48,210.8	7,880.2	8,510.8	29,066.5	19,739.8	1,871.8
1977-78(g) . . .	26,065	853,966	290,233	1,144,199	11,135.8	48,112.6	7,863.5	8,498.1	28,979.3	19,738.1	1,877.3
1978-79(g) . . .	26,312	852,982	290,909	1,143,891	11,966.4	55,211.3	8,515.4	9,299.6	33,765.4	22,230.1	2,262.8

(a) Including working proprietors. (b) Excluding the drawings of working proprietors. (c) Data in this column have been revised to comply with changes in the ABS definition of value added. 'Rent, leasing and hiring expenses' and 'rent, leasing and hiring revenue', previously excluded from the value added calculation, are now included. (d) These data and that of previous years includes the data of all manufacturing establishments. (e) These data and those of following years exclude single establishment manufacturing enterprises with fewer than four persons employed. (f) These data and those of previous years are classified to the 1969 (preliminary) edition of ASIC. (g) These data are classified to the 1978 edition of ASIC.

The items of data on the census forms were standardised for all census sectors, which has meant changes in the content of the statistics. For example, the value of 'turnover' is now collected instead of the 'value of output' at the factory, and purchases and selected expenses are collected as well as the value of specified materials, fuels, etc., used. However the underlying concept of 'value added', is similar to the former concept 'value of production', even though its method of derivation is different.

Even though the concept of 'value added' is similar to 'value of production', direct comparison of 1968-69 and previous figures is not possible because of the change in census units already mentioned which has resulted in the 'value added' for the whole establishment being reported, not merely the 'value added' for the manufacturing process. Comparison is also affected, of course, by the change in the scope of the manufacturing census due to the adoption of ASIC. In addition, 'value added' as calculated for the Manufacturing Census differs from the concept used in National Accounts where the concept of 'value added' also excludes some administrative expenses and sundry charges and the change in stocks component is measured by valuing the physical change in stocks at current prices. It is not practicable in the Manufacturing Census to collect data fully in accord with the national accounts concept of 'value added'.

For a more detailed description of the Integrated Economic Censuses reference should be made to Year Book No. 56, Chapter 31.

Since the introduction of the system of integrated economic censuses the comparability of manufacturing census data has been affected by two additional changes to collection practices:

- Commencing with the 1975-76 Manufacturing Census, only a limited range of data (i.e. employment and wages and salaries) is collected from single establishment manufacturing enterprises with less than four persons employed. This procedure significantly reduced both the statistical reporting obligations of small businesses and the collecting and processing costs of the Australian Bureau of Statistics without affecting the reliability of information for the evaluation of trends in the manufacturing sector of the economy (as these small enterprises contribute only marginally to statistical aggregates). In order to provide a link with past and future years, 1974-75 data was processed on both bases.
- Commencing with the 1977-78 census the classification of census units to industry is based on the 1978 edition of the ASIC which replaces the 1969 preliminary edition in use since the 1968-69 census. In general the impact of the change in industrial classification is minimal at the ASIC Division and Subdivision levels. A document fully describing the differences between the 1969 and 1978 editions of the ASIC is available on request from the Australian Bureau of Statistics.

Multi-establishment enterprises and single establishment manufacturing enterprises with four or more persons employed

Main structural aggregates relating to number of establishments, employment, wages and salaries, turnover, purchases, transfers in and selected expenses, stocks, and value added are shown in the following tables. Further detailed statistics are contained in the following ABS statistical publications: *Manufacturing Establishments, Details of Operations by Industry Class, Australia* (8203.0), *Manufacturing Establishments, Summary of Operations by Industry Class, Australia* (8202.0) and *Manufacturing Establishments: Selected Items of Data Classified by Industry and Employment Size, Australia* (8204.0).

Summary of operations

The following table shows the summary of operations for manufacturing establishments.

MANUFACTURING ESTABLISHMENTS—SUMMARY OF OPERATIONS BY INDUSTRY SUB-DIVISION: AUSTRALIA 1977-78 AND 1978-79

Industry sub-division		Establishments operating at 30 June No.	Average employment over whole year (a)			Wages and salaries (b) \$m	Turn-over \$m	Stocks at 30 June		Purchases, transfers in and selected expenses (c) \$m	Value added (c) \$m	Fixed capital expenditure less disposals \$m
			Males No.	Females No.	Persons No.			Opening \$m	Closing \$m			
ASIC code	Description											
1977-78 (d)												
21	Food, beverages and tobacco	3,358	143,998	51,340	195,338	1,884	10,825	1,176	1,305	7,265	3,689	414
23	Textiles	634	21,021	16,160	37,181	337	1,442	272	276	879	566	27
24	Clothing and footwear	2,136	19,203	61,910	81,113	614	1,980	306	330	1,063	942	20
25	Wood, wood products and furniture	3,751	63,912	11,227	75,139	621	2,431	338	354	1,358	1,090	53
26	Paper, paper products, printing and publishing	2,573	71,117	26,027	97,144	1,005	3,481	420	436	1,779	1,719	133
27	Chemical, petroleum and coal products	873	45,651	16,082	61,733	720	4,154	694	786	2,578	1,668	349
28	Non-metallic mineral products	1,573	41,408	4,926	46,334	513	2,155	306	353	1,186	1,016	132
29	Basic metal products	509	82,395	6,252	88,647	1,050	5,527	1,240	1,366	3,790	1,854	268
31	Fabricated metal products	3,829	82,914	20,321	103,235	941	3,635	585	638	2,057	1,630	73
32	Transport equipment	1,248	119,546	15,420	134,966	1,350	4,862	942	956	2,870	2,002	189
33	Other machinery and equipment	3,558	120,671	39,670	160,341	1,533	5,271	1,222	1,312	2,839	2,522	137
34	Miscellaneous manufacturing	2,023	42,340	21,038	63,378	571	2,333	365	387	1,315	1,041	83
	Total manufacturing	26,065	854,176	290,373	1,144,549	11,138	48,097	7,864	8,500	28,979	19,738	1,880
1978-79 (d)												
21	Food, beverages and tobacco	3,326	138,961	50,694	189,655	1,971	12,545	1,330	1,484	8,663	4,035	460
23	Textiles	625	20,746	15,782	36,528	353	1,603	282	313	994	642	32
24	Clothing and footwear	2,025	18,880	62,000	80,880	657	2,199	329	392	1,213	1,049	26
25	Wood, wood products and furniture	3,817	63,238	11,220	74,458	655	2,685	354	392	1,529	1,194	71
26	Paper, paper products, printing and publishing	2,612	71,666	26,376	98,042	1,078	3,902	436	496	2,001	1,961	210
27	Chemical, petroleum and coal products	873	45,683	16,094	61,777	778	4,847	789	859	3,017	1,899	427
28	Non-metallic mineral products	1,616	40,065	4,922	44,987	535	2,412	353	362	1,332	1,089	145
29	Basic metal products	507	83,733	6,268	90,001	1,159	6,873	1,336	1,377	4,556	2,358	305
31	Fabricated metal products	3,939	85,654	20,198	105,852	1,046	4,173	621	691	2,390	1,853	93
32	Transport equipment	1,279	120,691	16,016	136,797	1,446	5,365	994	1,050	3,221	2,200	228
33	Other machinery and equipment	3,630	120,701	39,705	160,406	1,646	5,883	1,302	1,446	3,256	2,770	174
34	Miscellaneous manufacturing	2,063	42,964	21,544	64,508	642	2,724	388	439	1,594	1,181	93
	Total manufacturing	26,312	852,982	290,909	1,143,891	11,966	55,211	8,515	9,300	33,765	22,230	2,263

(a) Includes working proprietors. (b) Excludes the drawings of working proprietors. (c) Data in this column have been revised to comply with changes in the ABS definition of value added. 'Rent, leasing and hiring expenses' and 'rent, leasing and hiring revenue', previously excluded from the value added calculation, are now included. (d) Based on 1978 edition of ASIC. (see page 412).

Employment

The statistics on the number of persons employed shown in the following table relate to the average whole year employment, including working proprietors and those persons working at separately located administrative offices and ancillary units in the State.

It should be noted that persons employed in each State (and their wages and salaries) relate to those employed at establishments, administrative offices or ancillary units located in that State, even though the administrative offices or ancillary units may have served establishments located in another State.

MANUFACTURING ESTABLISHMENTS—MALES, FEMALES AND PERSONS EMPLOYED BY INDUSTRY SUB-DIVISION, 1978-79(a), AND TOTAL MANUFACTURING 1976-77(b), 1977-78(a) AND (b) 1978-79(a)

Industry sub-division										
ASIC code	Description	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
MALES EMPLOYED										
21	Food, beverages and tobacco	44,909	39,913	28,283	11,852	9,121	4,118	379	386	138,961
23	Textiles	6,094	11,072	679	1,525	505	871	—	—	20,746
24	Clothing and footwear	5,576	11,111	808	1,030	277	78	—	—	18,880
25	Wood, wood products and furniture	21,469	15,528	9,449	6,772	6,214	3,394	87	325	63,238
26	Paper, paper products, printing and publishing	25,822	23,364	6,982	5,399	4,395	4,654	145	905	71,666
27	Chemical, petroleum and coal products	20,545	16,253	2,501	2,356	2,794	n.p.	785	190	{ 45,683
28	Non-metallic mineral products	14,450	10,870	5,651	3,324	4,678	777			
29	Basic metal products	49,324	11,509	5,409	8,398	5,197	n.p.			
31	Fabricated metal products	31,705	27,927	9,643	7,258	7,157	1,322	227	432	{ 85,654
32	Transport equipment	34,025	51,794	10,893	18,207	5,202	n.p.			
33	Other machinery and equipment	51,645	41,305	8,289	12,452	5,967	861			
34	Miscellaneous manufacturing	15,790	18,624	2,613	4,062	1,494	333	33	15	42,964
Total manufacturing										
	1978-79(a)	321,354	279,315	91,200	82,635	53,001	21,386	1,691	2,400	852,982
	1977-78(a)	318,260	280,498	90,315	85,991	53,336	22,022	1,280	2,264	853,966
	1977-78(b)	319,172	280,319	90,487	86,097	53,596	22,177	1,280	2,320	855,448
	1976-77(b)	325,159	288,743	90,975	89,917	54,337	23,042	1,369	2,569	876,111
FEMALES EMPLOYED										
21	Food, beverages and tobacco	16,391	15,370	7,821	5,125	3,839	1,890	134	124	50,694
23	Textiles	4,848	7,974	612	1,091	296	961	—	—	15,782
24	Clothing and footwear	20,820	33,872	3,377	2,639	1,151	141	—	—	62,000
25	Wood, wood products and furniture	3,980	2,873	1,749	1,160	1,167	229	11	51	11,220
26	Paper, paper products, printing and publishing	10,995	8,292	2,307	1,885	1,738	719	82	358	26,376
27	Chemical, petroleum and coal products	9,376	5,357	428	463	397	n.p.	93	11	{ 16,094
28	Non-metallic mineral products	1,873	1,867	427	310	381	45			
29	Basic metal products	3,430	1,308	294	686	351	n.p.			
31	Fabricated metal products	7,905	7,089	1,938	1,732	1,226	203	28	83	{ 20,198
32	Transport equipment	3,595	9,525	558	2,038	246	n.p.			
33	Other machinery and equipment	19,463	13,488	1,136	4,578	890	105			
34	Miscellaneous manufacturing	9,197	8,634	1,112	1,960	549	62	25	5	21,544
Total manufacturing										
	1978-79(a)	111,873	115,649	21,759	23,667	12,231	4,680	377	673	290,909
	1977-78(a)	110,734	115,874	21,396	24,035	12,404	4,944	218	628	290,233
	1977-78(b)	111,499	115,615	21,395	23,754	12,204	4,851	218	701	290,237
	1976-77(b)	113,737	120,453	21,782	25,477	12,413	4,724	255	879	299,720
PERSONS EMPLOYED										
21	Food, beverages and tobacco	61,300	55,283	36,104	16,977	12,960	6,008	513	510	189,655
23	Textiles	10,942	19,046	1,291	2,616	801	1,832	—	—	36,528
24	Clothing and footwear	26,396	44,983	4,185	3,669	1,428	219	—	—	80,880
25	Wood, wood products and furniture	25,499	18,401	11,198	7,932	7,381	3,623	98	376	74,458
26	Paper, paper products, printing and publishing	36,817	31,656	9,289	7,284	6,133	5,373	227	1,263	98,042
27	Chemical, petroleum and coal products	29,921	21,610	2,929	2,819	3,191	n.p.	878	201	{ 61,777
28	Non-metallic mineral products	16,323	12,737	6,078	3,634	5,059	822			
29	Basic metal products	52,754	12,817	5,703	9,084	5,548	n.p.			
31	Fabricated metal products	39,610	35,061	11,581	8,990	8,383	1,525	255	515	{ 105,852
32	Transport equipment	37,620	61,319	11,451	20,245	5,448	n.p.			
33	Other machinery and equipment	71,108	54,793	9,425	17,030	6,857	966			
34	Miscellaneous manufacturing	24,987	27,258	3,725	6,022	2,043	395	58	20	64,508
Total manufacturing										
	1978-79(a)	433,227	394,964	112,959	106,302	65,232	26,066	2,068	3,073	1,143,891
	1977-78(a)	428,994	396,372	111,711	110,026	65,740	26,966	1,498	2,892	1,144,199
	1977-78(b)	430,671	395,934	111,882	109,851	65,800	27,028	1,498	3,021	1,145,685
	1976-77(b)	438,896	409,196	112,757	115,394	66,750	27,766	1,624	3,448	1,175,831

(a) Based on 1978 edition of ASIC (see page 412).

(b) Based on 1969 edition of ASIC (see page 412).

Wages and salaries

The following table shows wages and salaries of all employees of manufacturing establishments including those working at separately located administrative offices and ancillary units in the State. Drawings of working proprietors are not included.

**MANUFACTURING ESTABLISHMENTS—WAGES AND SALARIES BY INDUSTRY
SUB-DIVISION, 1978-79(a) AND TOTAL MANUFACTURING 1976-77(b), 1977-78(a) AND (b), 1978-79(a)**
(\$ million)

Industry sub-division										
ASIC code	Description	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
21	Food, beverages and tobacco . . .	663	588	371	156	130	50	8	5	1,971
23	Textiles	109	185	10	25	7	16	—	—	353
24	Clothing and footwear	215	371	30	30	10	2	—	—	657
25	Wood, wood products and furniture . . .	231	162	93	68	62	34	1	4	655
26	Paper, paper products, printing and publishing	414	359	92	72	61	63	3	14	1,078
27	Chemical, petroleum and coal products	375	274	37	33	42	n.p.	13	2	778
28	Non-metallic mineral products	199	152	71	42	58	9			
29	Basic metal products	681	165	74	108	76	n.p.			
31	Fabricated metal products	398	355	110	80	82	14	3	6	1,046
32	Transport equipment	408	649	113	214	53	n.p.			
33	Other machinery and equipment	743	564	92	166	71	8			
34	Miscellaneous manufacturing	251	278	33	58	18	4	—	—	642
Total manufacturing										
	1978-79(a)	4,689	4,102	1,125	1,052	671	266	28	34	11,966
	1977-78(a)	4,321	3,829	1,035	1,015	629	258	18	30	11,136
	1977-78(b)	4,324	3,828	1,036	1,016	639	260	18	30	11,151
	1976-77(b)	4,027	3,656	982	981	595	246	18	31	10,536

(a) Based on 1978 edition of ASIC (see page 412).

(b) Based on 1969 edition of ASIC (see page 412).

Turnover

The following table shows the value of turnover of manufacturing establishments. The figures include sales of goods whether produced by the establishment or not, transfers out of goods to other establishments of the same enterprise; bounties and subsidies on production; plus all other operating revenue from outside the enterprise, (such as commission, repair and service revenue and rent, leasing and hiring revenue), plus capital work done for own use, or for rental or lease. Receipts from interest, royalties, dividends, and the sale of fixed tangible assets are excluded.

**MANUFACTURING ESTABLISHMENTS—TURNOVER, BY INDUSTRY SUB-DIVISION,
1978-79(a) AND TOTAL MANUFACTURING 1976-77(b), 1977-78(a) AND (b), 1978-79(a)**
(\$ million)

Industry sub-division										
ASIC code	Description	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
21	Food, beverages and tobacco . . .	3,971	3,901	2,430	943	883	356	40	21	12,545
23	Textiles	524	827	38	121	31	63	—	—	1,603
24	Clothing and footwear	794	1,208	79	91	22	5	—	—	2,199
25	Wood, wood products and furniture . . .	968	661	342	282	243	169	4	14	2,685
26	Paper, paper products, printing and publishing	1,508	1,314	320	256	193	267	6	36	3,902
27	Chemical, petroleum and coal products	2,268	1,458	613	177	260	n.p.	119	20	4,847
28	Non-metallic mineral products	862	635	361	200	266	57			
29	Basic metal products	3,290	953	857	590	782	n.p.			
31	Fabricated metal products	1,558	1,360	490	338	340	54	15	19	4,173
32	Transport equipment	1,251	2,656	551	747	134	n.p.			
33	Other machinery and equipment	2,608	2,078	343	566	255	22			
34	Miscellaneous manufacturing	1,047	1,177	166	225	88	21	—	—	2,724
Total manufacturing										
	1978-79(a)	20,650	18,228	6,591	4,536	3,499	1,401	186	119	55,211
	1977-78(a)	17,906	16,191	5,525	3,967	3,032	1,246	145	101	48,113
	1977-78(b)	17,912	16,182	5,531	3,983	3,080	1,277	145	101	48,211
	1976-77(b)	16,433	15,040	5,261	3,768	2,888	1,199	124	104	44,818

(a) Based on 1978 edition of ASIC (see page 412).

(b) Based on 1969 edition of ASIC (see page 412).

Purchases, transfers in and selected expenses

The following table gives details of the value of purchases, transfers in and selected expenses. Figures include purchases of materials, fuels, power, containers, etc. and goods for resale, plus transfers in of goods from other establishments of the enterprise, plus charges for commission and sub-contract work, repair and maintenance expenses, outward freight and cartage, motor vehicle running expenses, sales commission payments and rent, leasing and hiring expenses.

MANUFACTURING ESTABLISHMENTS—PURCHASES, TRANSFERS IN AND SELECTED EXPENSES(a), BY INDUSTRY SUB-DIVISION, 1978-79(b) AND TOTAL MANUFACTURING 1976-77(c), 1977-78(b) AND (c), 1978-79(b)
(\$ million)

Industry sub-division										
ASIC code	Description	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
21	Food, beverages and tobacco . . .	2,697	2,707	1,705	618	630	268	26	12	8,663
23	Textiles	326	511	23	80	19	35	-	-	994
24	Clothing and footwear	471	653	36	41	10	2	-	-	1,213
25	Wood, wood products and furniture . . .	556	371	193	172	132	96	2	7	1,529
26	Paper, paper products, printing and publishing	791	703	162	120	87	123	2	11	2,001
27	Chemical, petroleum and coal products	1,340	881	492	107	155	n.p.	77	15	{ 3,017
28	Non-metallic mineral products	480	322	207	113	150	39			
29	Basic metal products	2,075	677	616	400	531	n.p.			
31	Fabricated metal products	891	739	308	199	204	32	9	8	{ 2,390
32	Transport equipment	694	1,689	343	414	64	n.p.			
33	Other machinery and equipment	1,430	1,160	203	309	139	10	1	4	3,256
34	Miscellaneous manufacturing	601	697	100	130	55	11	-	-	1,594
Total manufacturing										
	1978-79(b)	12,353	11,109	4,388	2,704	2,176	862	117	57	33,765
	1977-78(b)	10,538	9,640	3,547	2,408	1,972	749	92	48	28,993
	1977-78(c)	10,540	9,641	3,549	2,427	2,027	765	92	48	29,088
	1976-77(c)	9,779	8,838	3,417	2,309	1,836	701	85	48	27,014

(a) Data in this table have been revised to comply with changes in the ABS definition of value added. 'Rent, leasing and hiring expenses' and 'rent, leasing and hiring revenue', previously excluded from the value added calculation, are now included. (b) Based on 1978 edition of ASIC (see page 412). (c) Based on 1969 edition of ASIC (see page 412).

Stocks

Statistics on the value of opening and closing stocks at 30 June are shown in the following table. Figures include all the stocks of materials, fuels, etc., and finished goods and work-in-progress of the establishment whether located at the establishment or elsewhere.

MANUFACTURING ESTABLISHMENTS—OPENING AND CLOSING STOCKS BY INDUSTRY SUB-DIVISION, 1978-79(a) AND TOTAL MANUFACTURING 1976-77(b), 1977-78(a) AND (b), 1978-79(a)
(\$ million)

Industry sub-division										
ASIC code	Description	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
OPENING STOCKS AT 30 JUNE										
21	Food, beverages and tobacco . . .	415	482	144	183	55	48	2	-	1,330
23	Textiles	83	150	9	19	5	16	-	-	282
24	Clothing and footwear	109	186	14	18	2	-	-	-	329
25	Wood, wood products and furniture . . .	113	84	46	43	34	33	-	1	354
26	Paper, paper products, printing and publishing	160	166	36	26	19	24	-	5	436
27	Chemical, petroleum and coal products	406	239	72	22	36	n.p.	33	1	{ 789
28	Non-metallic mineral products	133	89	52	30	41	6			
29	Basic metal products	637	139	132	129	202	n.p.			
31	Fabricated metal products	230	222	61	50	45	7	2	4	{ 621
32	Transport equipment	196	514	95	171	14	n.p.			
33	Other machinery and equipment	555	509	66	119	50	3	-	1	1,302
34	Miscellaneous manufacturing	147	178	19	29	10	5	-	-	388
Total manufacturing										
	1978-79(a)	3,183	2,959	748	839	512	226	38	12	8,515
	1977-78(a)	3,026	2,695	674	779	411	224	45	10	7,864
	1977-78(b)	3,027	2,695	675	784	415	229	45	10	7,880
	1976-77(b)	2,672	2,451	579	680	352	204	35	11	6,985

For footnotes see end of table.

**MANUFACTURING ESTABLISHMENTS—OPENING AND CLOSING STOCKS BY INDUSTRY
SUB-DIVISION, 1978–79(a) AND TOTAL MANUFACTURING 1976–77(b), 1977–78(a)
AND (b), 1978–79(a)—continued**
(\$ million)

Industry sub-division										
ASIC code	Description	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
CLOSING STOCKS AT 30 JUNE										
21	Food, beverages and tobacco . . .	477	497	193	191	69	52	4	—	1,484
23	Textiles	97	158	13	23	5	17	—	—	313
24	Clothing and footwear	135	219	16	19	3	—	—	—	392
25	Wood, wood products and furniture . . .	134	89	50	48	38	32	—	1	392
26	Paper, paper products, printing and publishing	192	185	40	27	19	28	1	4	496
27	Chemical, petroleum and coal products	437	257	84	28	36	n.p.	34	1	859
28	Non-metallic mineral products	141	81	56	29	46	7			
29	Basic metal products	669	160	141	146	165	n.p.			
31	Fabricated metal products	265	236	74	53	47	9	3	3	1,377
32	Transport equipment	237	555	97	139	16	n.p.			
33	Other machinery and equipment	610	578	81	120	53	3			
34	Miscellaneous manufacturing	166	200	22	34	12	4	—	—	1,446
	Total manufacturing									
	1978–79(a)	3,560	3,217	867	858	510	235	42	11	9,300
	1977–78(a)	3,193	2,896	744	857	533	218	47	11	8,498
	1977–78(b)	3,194	2,896	744	862	533	224	47	11	8,511
	1976–77(b)	3,057	2,744	691	789	430	232	42	11	7,997

(a) Based on 1978 edition of ASIC (see page 412).

(b) Based on 1969 edition of ASIC (see page 412).

Value added

The statistics on 'value added' contained in the following table have been calculated by adding to the value of turnover the increase (or deducting the decrease) in the value of stocks, and deducting the value of purchases, transfers in and selected expenses. A more detailed description of the method of deriving 'value added' is given on page 412.

**MANUFACTURING ESTABLISHMENTS—VALUE ADDED(a), BY INDUSTRY SUB-DIVISION, 1978–79(b)
AND TOTAL MANUFACTURING, 1976–77(c), 1977–78(b) AND (c), 1978–79(b)**
(\$ million)

Industry sub-division										
ASIC code	Description	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
21	Food, beverages and tobacco . . .	1,336	1,208	775	333	267	91	17	9	4,035
23	Textiles	212	324	19	45	13	29	—	—	642
24	Clothing and footwear	349	588	45	51	13	3	—	—	1,049
25	Wood, wood products and furniture . . .	433	296	154	115	115	72	2	7	1,194
26	Paper, paper products, printing and publishing	749	630	161	137	106	149	5	25	1,961
27	Chemical, petroleum and coal products	959	595	133	76	105	n.p.	43	5	1,899
28	Non-metallic mineral products	390	306	158	86	121	18			
29	Basic metal products	1,248	297	249	207	214	n.p.			
31	Fabricated metal products	703	635	195	142	139	23	6	11	1,853
32	Transport equipment	597	1,008	209	301	73	n.p.			
33	Other machinery and equipment	1,233	987	155	258	119	12			
34	Miscellaneous manufacturing	466	502	68	100	36	9	—	—	1,181
	Total manufacturing									
	1978–79(b)	8,675	7,377	2,322	1,851	1,322	549	73	61	22,230
	1977–78(b)	7,535	6,751	2,048	1,637	1,182	491	55	53	19,755
	1977–78(c)	7,539	6,742	2,051	1,635	1,170	506	55	54	19,754
	1976–77(c)	7,039	6,495	1,956	1,568	1,131	526	45	56	18,816

(a) Data in this table have been revised to comply with changes in the ABS definition of value added. 'Rent, leasing and hiring expenses' and 'rent, leasing and hiring revenue', previously excluded from the value added calculation, are now included. (b) Based on 1978 edition of ASIC (see page 412). (c) Based on 1969 edition of ASIC (see page 412).

Number of establishments

The following table shows the number of establishments in each State in operation at 30 June for the years indicated. These figures relate to manufacturing establishments as such and do not include the numbers of separately located administrative offices and ancillary units.

MANUFACTURING ESTABLISHMENTS—NUMBER OF ESTABLISHMENTS IN OPERATION AT 30 JUNE 1979(a) BY INDUSTRY SUB-DIVISION, AND TOTAL MANUFACTURING 1976-77(b), 1977-78(a) AND (b), 1978-79(a)

Industry sub-division

ASIC code	Description	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
21	Food, beverages and tobacco	955	957	559	372	333	119	20	11	3,326
23	Textiles	224	291	35	36	29	10	—	—	625
24	Clothing and footwear	774	1,041	85	70	49	6	—	—	2,025
25	Wood, wood products and furniture	1,280	1,068	548	311	411	159	13	27	3,817
26	Paper, paper products, printing and publishing	1,102	853	220	188	169	42	11	27	2,612
27	Chemical, petroleum and coal products	404	286	55	48	65	n.p.	—	—	873
28	Non-metallic mineral products	548	380	275	140	194	46	21	18	1,616
29	Basic metal products	206	169	47	36	35	n.p.	—	—	507
31	Fabricated metal products	1,537	1,114	462	348	375	72	14	21	3,939
32	Transport equipment	397	434	162	112	151	n.p.	—	—	1,279
33	Other machinery and equipment	1,577	1,216	264	283	240	37	4	9	3,630
34	Miscellaneous manufacturing	799	737	174	175	151	19	4	4	2,063
Total manufacturing										
	1978-79(a)	9,803	8,546	2,886	2,119	2,202	552	87	117	26,312
	1977-78(a)	9,696	8,571	2,838	2,170	2,037	599	64	90	26,065
	1977-78(b)	9,712	8,542	2,840	2,146	2,016	586	64	92	25,998
	1976-77(b)	9,982	8,735	3,001	2,242	2,035	617	67	101	26,780

(a) Based on 1978 edition of ASIC (see page 412). (b) Based on 1969 edition of ASIC (see page 412).

Single establishment manufacturing enterprises with less than four persons employed

Summary of operations

The following table shows the summary of operations for single establishment manufacturing enterprises with less than four persons employed.

SINGLE ESTABLISHMENT MANUFACTURING ENTERPRISES WITH LESS THAN FOUR PERSONS EMPLOYED: SUMMARY OF OPERATIONS, BY INDUSTRY SUB-DIVISION: AUSTRALIA, 1978-79(a) AND TOTAL MANUFACTURING 1976-77(b), 1977-78(a), 1978-79(a)

<i>Industry sub-division</i>		Establishments operating at 30 June	Employment at 30 June (c)			Wages and salaries (d)
ASIC code	Description		Males	Females	Persons	
			—No.—			\$m
21	Food, beverages and tobacco	736	1,142	550	1,692	5.1
23	Textiles	206	262	159	421	1.3
24	Clothing and footwear	509	431	639	1,070	3.6
25	Wood, wood products and furniture	2,886	4,630	1,019	5,649	14.9
26	Paper, paper products, printing and publishing	1,202	1,594	892	2,486	9.6
27	Chemical, petroleum and coal products	230	332	121	453	2.1
28	Non-metallic mineral products	476	813	167	980	3.5
29	Basic metal products	102	172	34	206	0.9
31	Fabricated metal products	1,873	3,170	697	3,867	13.8
32	Transport equipment	563	956	189	1,145	3.8
33	Other machinery and equipment	1,557	2,435	705	3,140	12.3
34	Miscellaneous manufacturing	1,579	2,154	884	3,038	8.2
Total manufacturing						
	1978-79(a)	11,919	18,091	6,056	24,147	79.1
	1977-78(a)	11,824	18,232	5,930	24,162	74.9
	1976-77(b)	11,039	16,624	5,543	22,167	61.2

(a) Based on 1978 edition of ASIC (see page 412). (b) Based on 1969 edition of ASIC (see page 412). (c) Includes working proprietors. (d) Excludes the drawings of working proprietors.

Principal manufacturing commodities

The factory production of certain commodities is shown in the monthly and quarterly publications of the ABS, and in the annual publication, *Manufacturing Commodities, Selected Principal Articles Produced, Australia (Preliminary)* (8365.0). A more comprehensive list of articles produced is contained in the annual publication, *Manufacturing Commodities, Principal Articles Produced, Australia* (8303.0).

The following table shows the total recorded production of some of the principal articles (i.e. of those for which production can be represented in quantitative terms) manufactured in Australia. A more complete list, where available, is published in the ABS publication 8303.0 mentioned above.

**QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS:
AUSTRALIA**

<i>Commodity code</i>	<i>Article</i>		<i>1976-77</i>	<i>1977-78</i>	<i>1978-79p</i>
	Acid (in terms of 100%)—				
401.29	Hydrochloric	tonnes	47,735	50,215	54,955
401.37	Nitric	"	152,899	174,436	177,329
401.57	Sulphuric	'000 tonnes	1,752	1,837	1,940
171.03, 04, 07, 08	Aerated and carbonated waters	'000 litres	951,238	998,664	985,757
	Air-conditioning equipment—				
657.03, 05	Room air conditioners (refrigerated)	No.	37,213	40,811	41,660
657.13, 15	Room air coolers (evaporative coolers)	"	103,726	61,374	56,495
657.21, 22, 23	Packaged unit air conditioners	"	26,689	22,217	23,902
	Animal feeds—				
	From wheat—				
152.06	Pollard	'000 tonnes	205	228	216
159.11	Poultry pellets and crumbles	"	1,127	1,201	1,276
159.15	Poultry mash	"	240	203	189
159.21	Other prepared stock and poultry feed	"	548	635	604
159.01	Canned dog and cat foods	'000 kg	174,260	163,365	190,436
159.02	Dog biscuits (whole)	"	20,215	19,628	7,802
159.03	Other manufactured dog and cat food	"	53,025	58,492	62,791
475.04, 06, 07, 85	Asbestos cement building sheets (finished)	'000 m ²	43,713	39,436	38,908
	Bags, leather, fibre, etc.—				
	Handbags—				
864.31	Leather	'000	306	378	334
864.33	Plastic	"	959	612	376
864.39	Other	"	329	292	396
946.01-56	Hessian and calico bags	'000 doz	n.p.	2,627	n.p.
864.11-19	Suitcases, kitbags and trunks	'000	857	874	833
	Bath heaters—				
652.01	Electric	No.	7,079	6,399	5,434
652.03, 06, 08	Gas	"	n.p.	n.p.	n.p.
652.05	Solid fuel	"	1,158	884	685
779.02-37	Bathing suits(a)	'000 doz	252	311	372
	Baths (exclude infants' baths)—				
671.03	Pressed steel—Enamelled	'000	149	136	124
671.01, 04, 08	Other (exclude pressed steel, galvanised)	"	29	27	22
	Batteries, wet cell type—				
685.13, 15	Auto (S.L.I.) 6 volts	"	300	279	262
685.17, 19	Auto (S.L.I.) 12 volts	"	2,656	2,773	3,018
685.33, 35	Radio, homelighter, fencer	No. of 2 volt cells	18,206	13,269	12,686
685.43-65	Traction, plant and other	"	158,314	175,926	171,720
172.02, 04, 06	Beer (excluding waste beer)	mil. litres	1,955	2,005	1,986
064.21	Biscuits	'000 kg	124,706	121,341	125,175
372.52-66, 374.51-57	Blankets, Woollen—Pure and Mixtures	'000	1,580	1,427	1,167
152.02	Bran (wheaten)	'000 tonnes	116	96	99
172.21	Brandy	'000 litre al	1,963	2,678	2,382
777.41, 49	Brassieres	'000 doz	665	641	666
066.01-31	Breakfast food, cereal (ready to eat)	tonnes	73,780	77,814	78,850
472.01, 03	Bricks, clay	million	2,033	1,911	1,914
261.41	Briquettes, brown coal	'000 tonnes	1,035	1,064	1,131
051.30, 052.20	Butter—from cream (exclude whey cream)	'000 kg	116,095	110,558	97,663
773.51, 53, 74, 75, 83	Cardigans, jumpers, etc.	'000 doz	2,065	2,047	1,991
474.02	Cement, Portland	'000 tonnes	5,083	5,016	5,085
053.45	Cheese (non-processed)	'000kg	103,549	115,583	141,815
	Cloth (including mixtures)—				
373.10-52	Cotton(b)	'000m ²	39,210	37,703	40,188
	Rayon and acetate—				
374.02, 06, 14	Pure	"	16,594	11,644	13,518
374.04, 08, 16	Mixture	"		n.p.	n.p.
374.20-35	Synthetic (non-cellulosic)	"	98,501	103,571	114,898
372.02-50	Wool (excluding blanketing and rug)	"	11,494	11,028	11,649
435.22	Coke—Metallurgical	'000 tonnes	4,501	4,310	4,620
475.90	Concrete, ready mixed	'000m ³	10,548	10,331	11,065
	Confectionery—				
104.06-18	Chocolate	'000 kg	55,663	54,398	51,575
104.21-29	Other	"	58,961	59,251	56,042
452.04	Copper, refined(c)	'000 tonnes	157	158	138

(a) Includes swim shorts. Excludes infants' and babies' swim-wear.

(b) Excludes tyre-cord fabric and towelling.

(c) Primary origin only.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS:
AUSTRALIA—continued

Commodity code	Article		1976-77	1977-78	1978-79 _p
171.06, 10	Cordials and syrups	'000 litres	104,415	115,468	109,192
777.01-29	Corsets and corselets	'000 doz	n.p.	157,252	152,274
611.01	Cycles (complete)	'000	274	190	203
804.01	Dentifrices (toothpaste)	'000 kg	7,496	7,738	7,333
499.42	Electricity	mil. kWh	85,522	86,095	90,857
523.76-78	Electrodes for manual welding	'000 kg	20,508	17,659	20,452
502.22-39	Engines, spark and compression ignition (a)	'000	311	245	230
	Essences, flavouring—				
139.31	Domestic	'000 litres	431	539	462
139.35	Industrial	"	5,553	6,407	6,064
696.01, 03, 05	Fans, electric (propellor type)	No.	486,347	443,528	404,035
045.01, 51	Fish, canned (including fish loaf)	'000 kg	6,385	7,898	7,335
	Floorboards—				
332.06	Australian timber	m ³ }	247,705	265,292	205,993
332.08	Imported timber	"			
	Floor coverings—				
841.01-07	Textile	'000 m ²	29,901	27,422	28,528
841.31-61, 69	Smooth surface and embossed	"	5,799	6,085	5,903
841.67, 68	Timber parquetry	"	150	109	135
841.85	Underfelts, underlays, etc. (b)	"	10,491	9,127	7,821
692.21, 23	Floor polishers, electric	No.	17,316	12,391	10,252
	Flour—				
068.01	Self-raising	'000 kg	33,922	59,121	39,968
062.01, 10, 32	Wheaten (c)	'000 tonnes	1,067	1,101	1,078
	Fruit juices, natural—				
074.61-69, 79	Single strength	'000 litres	156,508	197,582	186,239
074.76, 89	Concentrated (d)	"	10,718	15,515	15,425
781.06-29	Gloves, work (e)	'000 doz pairs	4,039	3,017	3,200
127.21	Glucose	'000 kg	50,523	49,240	47,751
832.58, 59	Golf clubs	doz	34,173	27,338	32,601
	Handkerchiefs—				
786.01	Men's	'000 doz }	766	735	n.p.
786.11	Women's	"			
	Heaters, room—				
651.01, 03	Solid fuel	No.	3,274	3,537	5,093
651.11-20	Electric radiators and fires	'000	658	738	758
651.04, 05, 21, 22, 26, 27	Gas fires and space heaters	No.	77,769	70,784	79,835
775, 776	Hosiery—				
	Women's (including panty hose)	'000 doz pairs	5,909	5,387	6,109
	Men's	"	1,876	1,847	1,769
	Children's and infants'	"	1,122	1,152	1,346
051.56, 58, 59	Ice cream (f)	'000 litres	190,679	211,923	211,919
051.87, 89, 90	Infants', invalids' and health beverages from cows milk (g)	'000 kg	30,968	28,078	22,403
	Ink, printing—				
419.31	News	"	n.p.	n.p.	n.p.
419.43-59	Other	"	n.p.	n.p.	17,067
	Iron and steel—				
442.04, 08	Pig iron	'000 tonnes	7,005	6,989	7,349
442.80-83	Steel ingots	"	7,558	7,445	n.p.
442.28	Blooms and slabs (h)	"	6,544	6,520	6,635
693.51, 61, 63	Irons, electric (hand, domestic)	'000	876	774	686
076.60	Jams (including conserves, jellies, etc.)	'000 kg	27,267	28,579	29,271
391.04	Lard	"	2,737	3,399	2,306
	Lawn mowers—				
699.52, 53	Petrol, rotary	No.	316,793	268,790	324,615
699.41, 45, 55, 61	Other types (i)	"	12,917	14,359	10,131
453.04	Lead refined (j)	'000 tonnes	166	208	218

(a) Petrol and diesel. Excludes car, motorcycle, truck, tractor, aero, and marine engines. (b) Needled (or bonded) felts of jute or jute/hair mixtures (for all purposes). (c) Includes wheatmeal for baking and sharps and other flour. (d) Excludes grape must. (e) Excludes fabric liners for dipped gloves but includes moulded or heat-sealed work gloves. (f) Includes ice cream combined with other confections, including those aerated milk-based confections which contain 10% or more butterfat. (g) Includes malted milk and milk sugar (lactose). (h) Primary mills output. (i) Petrol cylinder, electric and hand. (j) Includes lead content of lead alloys from primary sources but excludes lead-silver bullion.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS:
AUSTRALIA—continued

Commodity code	Article		1976-77	1977-78	1978-79p
	Leather—				
	Dressed or finished—				
301.43-65	Chrome tanned (including retanned)	'000 m ²	5,090	6,044	8,077
301.31-37, 83-89	Vegetable tanned, by weight	'000 kg	n.p.	n.p.	2,254
301.67, 69	Vegetable tanned, by measurement	'000 m ²	162	225	249
	Lime—				
275.43, 45	Crushed	tonnes	205,070	212,032	238,821
479.18	Hydrated	'000 tonnes	120	115	113
479.12	Quick	"	532	563	422
802.21	Lipstick	'000 kg	40	40	39
063.11-21, 31	Malt (excluding extract)	'000 tonnes	388	423	460
	Margarine—				
121.01	Table	'000 kg	69,902	76,214	89,455
121.06, 08	Other	"	52,812	45,876	43,870
	Mattresses—				
844.22, 25, 27	Inner spring	'000	695	683	714
844.42, 45, 47	Rubber	"	15	10	10
844.52-67	Other	"	601	582	474
027.02-77	Meat, canned(a)	'000 kg	52,173	51,778	44,457
	Meters (domestic)—				
702.01	Electricity consumption	'000	235	206	237
703.01	Gas consumption	"	69	88	96
703.11	Water consumption	"	178	171	167
	Milk, condensed, concentrated and evaporated—				
051.21, 22	Full cream, coffee and milk, sweetened	'000 kg	19,777	17,996	16,630
051.23, 052.42	Full cream, unsweetened	"	37,925	37,703	39,529
051.28	Skim	"	22,176	25,704	29,348
	Milk powder in powdered form—				
051.72, 73	Full cream	"	57,550	76,367	75,030
051.76-79	Skim	"	103,924	81,413	74,471
051.81, 82	Buttermilk or mixed skim and buttermilk	"	8,881	9,297	8,187
503.13-32	Motors, electric (excl. automotive)	'000	3,319	2,862	3,183
	Motor vehicles, finished—				
581.02-08	Cars	No.	322,607	264,959	298,046
581.10-16	Station wagons	"	58,511	53,186	58,532
582.04	Utilities	"	24,937	21,979	19,832
582.06	Panel vans	"	25,844	20,221	14,492
582.08-24	Trucks and truck-type vehicles	"	10,223	10,091	8,686
	Motor vehicles, partly finished—				
581.22-28, 582.31, 32	Cars, station wagons, utilities, vans	"	1,508	1,358	865
582.33-46	Trucks and truck-type vehicles	"	23,719	18,927	22,271
589.81-89	Motor vehicle safety belts	'000	2,129	1,605	n.p.
465.16, 17	Nails	"	22,336	20,158	19,199
	Oatmeal and rolled oats—				
062.61, 63	For porridge, etc.	tonnes	13,059	15,637	17,683
393, 394	Oils and fats, crude—Vegetable	'000 kg	61,345	78,885	96,736
	Paints, etc.—				
	Architectural and decorative(b) —				
	Solvent thinned—				
410.01	Primers and undercoats	'000 litres	11,918	11,764	11,499
410.03, 05, 07	Finishing coats	"	29,266	27,585	27,585
	Water thinned—				
410.11, 13, 15	Plastic latex	"	35,855	35,826	38,054
410.17	Other water based	"	315	382	1,633
410.25	Tinting colours (all types) packed for sale or transfer out	"	539	509	579
	Paper—				
351.11	Newsprint	'000 tonnes	207	208	208
351.18-79	Other	"	586	606	633
352.11-33	Paperboard	"	431	415	421
336.12	Particle board (resin bonded)	'000 m ²	496	522	564
975.04, 09, 11	Perambulators, pushers and strollers	'000	n.p.	n.p.	n.p.
479.22	Plaster of Paris	'000 tonnes	384	348	347
479.32, 33	Plaster sheets—Non-acoustic	'000 m ²	49,947	48,034	48,504
334.32, 34, 36, 38	Plywood, 1 mm basis	"	78,227	84,681	86,440

(a) Excludes poultry and baby food.

(b) Excludes heavy duty coatings.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS:
AUSTRALIA—continued

Commodity code	Article		1976-77	1977-78	1978-79p
	Preserves—				
	Fruit—				
076.01-50	Canned or bottled	'000 kg	182,833	182,429	210,690
074.01	Pulp and puree—single strength	"	6,540	3,022	3,389
	Vegetables—				
094.02-47	Canned or bottled	"	122,146	127,814	139,787
092.02, 06, 10, 19	Quick frozen	"	129,888	130,321	143,073
	Pyjamas—				
774.20, 22, 27, 29	Men's, youths' and boys' (suits only)	'000 doz	n.p.	n.p.	n.p.
774.50-59, 64, 66	Women's, maids' and girls' (incl. nightdresses)	"	731	694	671
832.65, 85	Racquet frames (all types)	doz.	12,792	11,078	11,664
643.01-37	Radio receiving sets (including radiograms)	No.	62,569	216,174	163,036
	Records (phonograph)—				
646.35, 65	Single play	'000	7,131	7,249	7,767
646.37, 41, 67, 71	Extended play	"	195	144	288
646.43, 45, 73, 75	Long play	"	21,502	21,143	22,117
657.33, 34, 35, 41	Refrigerators, domestic, electric and gas	"	276	249	247
403.404	Resins, synthetic and plastics, for all purposes	'000 tonnes	459	482	580
061.67, 69	Rice, polished, unpolished and broken	'000 kg	279,779	n.p.	n.p.
372.70, 72, 374.59	Rugs	'000	129	131	133
123.18-25	Sauce	'000 litres	34,248	31,531	32,713
062.04	Semolina	'000 tonnes	24	28	33
773.02-09	Shirts (men's, youths' and boys'), collar attached (a)	'000 doz	477	522	n.p.
653.01	Sink heaters, electric	No.	10,439	9,340	10,880
671.11-18	Sinks, steel and other (standard size)	"	300,872	220,855	209,786
805.01-13	Soap, for personal toilet use(b)	tonnes	28,390	29,891	32,503
	Soup—				
	Liquid—				
122.02	Tomato	'000 litres	37,708	n.p.	n.p.
122.09	Other	"		21,890	21,252
122.13, 15	Dry-mix	'000 kg	6,359	5,227	6,103
127.11-19	Starch (incl. cornflour)	"	139,603	149,556	150,760
401.53	Stearine (stearic acid)	"	7,890	n.p.	n.p.
461.20	Steel, constructional, fabricated	tonnes	469,414	431,823	497,215
	Stoves, ovens and ranges, domestic cooking—				
661.01-11	Electric(c)	No.	255,662	232,591	228,716
662.26, 31, 34, 36, 42, 43	Gas(d)	"	110,476	94,890	95,611
662.01, 03	Solid fuel	"	3,745	3,190	4,341
	Sugar—				
102.01	Raw	'000 tonnes	3,288	3,343	2,989
102.12	Refined	"	698	n.p.	n.p.
405.36	Sulphate of ammonia	tonnes	207,167	229,453	220,553
415.07, 405.25	Superphosphate(e)	'000 tonnes	3,180	3,430	3,680
803.61	Talcum powder	'000 kg	4,097	4,451	4,254
	Tallow (including dripping), rendered—				
391.15	Edible	"	77,767	78,380	82,950
391.24	Inedible	"	300,861	329,269	326,948
643.57-60	Television sets (colour)	No.	512,042	367,109	292,161
645.51-58	Television picture tubes incorp. new screens	"	17,832	n.p.	n.p.
	Tiles, roofing—				
475.30	Concrete	'000	176,555	154,246	151,361
472.12	Terracotta	"	50,149	51,326	50,600
	Timber—				
	From native logs—				
331.01-07	Hardwood, etc.	'000 m ³	3,164	3,056	3,110
331.09-19	Softwood	"			
331.23, 25	From imported logs	"	2	n.p.	n.p.
661.21, 23	Toasters, electric (domestic)	No.	557,752	520,698	474,677
183.21-28	Tobacco	'000 kg	1,935	1,947	n.p.
094.51	Tomato juice	'000 litres	8,130	8,818	7,538

(a) Business or formal. (b) Excludes powdered shampoo. (c) Includes wall ovens but excludes cooking tops and portable units. (d) Upright and elevated (with ovens) including wall ovens, but excluding hotplates, stoves, etc. (e) Includes double and triple superphosphate and ammonium phosphate expressed in terms of single superphosphate i.e. 22% P₂O₅ equivalent.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS:
AUSTRALIA—continued

Commodity code	Article		1976-77	1977-78	1978-79 ^p
094.53	Tomato paste and puree	"	56,728	n.p.	8,236
373.58-64	Towels	'000 doz	811	838	933
671.51-59	Toilet cisterns	No.	545,468	n.p.	591,131
683.03-11	Transformers, chokes and ballasts, for distribution of power and light, etc.	"	18,358	18,888	19,311
863.01	Umbrellas, street and general purpose	'000	528	n.p.	n.p.
773.90-97					
774.01-18, 36-49, 61-73, 91-97	Underwear (men's, women's, children's)	'000 doz	6,660	6,051	5,964
692.02,04	Vacuum cleaners (domestic)	'000	200	175	219
	Wash basins—				
671.37	Earthenware	"	252	251	247
693.02-18	Washing machines, household, electric	"	301	282	358
	Weatherboards—				
332.12	Australian timber	m ³	15,272	11,317	17,773
332.14	Imported timber	"	2,857	1,791	2,457
152.14	Wheatmeal for stock feed	'000 tonnes	492	417	364
519.01	Wheelbarrows (metal)	No.	155,905	200,234	207,788
	Wine, beverage—				
172.42	Fortified	'000 litres	65,519	45,031	59,469
172.46	Unfortified	"	194,800	185,413	232,508
341.31-45	Wood pulp (air dried)	'000 tonnes	600	614	672
242.07-11	Wool, scoured or carbonised	tonnes	62,167	71,432	83,570
242.33, 35	Wool tops, pure	'000 kg	16,709	17,173	19,599
	Yarn (including mixtures)—				
364.11-50	Cotton	"	22,181	22,460	21,103
363.47-75	Woollen	"	14,008	13,821	14,799
363.17-31	Wool worsted	"	5,422	5,453	5,603
365.38-65	Rayon and acetate, spun	"	n.p.	n.p.	n.p.
365.90, 366.03, 04, 16, 29, 30, 42, 55, 56, 88, 96, 97	Synthetic (non-cellulosic) fibres spun	"	11,615	9,289	10,505
457.04	Zinc, refined (a)	'000 tonnes	262	263	309

(a) Primary origin only includes small quantities of zinc dust.

Enterprise and Industry Concentration Statistics

Industry statistics shown earlier in this chapter relate to *establishments*. Statistics are also available for *enterprises* engaged in the manufacturing industry. Enterprise statistics for manufacturing have been produced from the 1968-69 and 1974-75 economic censuses and were published in *Enterprise Statistics: Details by Industry Class, Australia* (8103.0). Enterprise statistics for manufacturing will be produced annually commencing with data for 1977-78 and should be available within two years of the end of the financial year to which they relate. A description of the statistics is given in Year Book No. 61, pages 1077-81.

Similarly, *industry concentration* statistics have been published for 1968-69 and 1972-73. These aim to show the extent to which individual enterprise groups dominate particular industries. A description and summary tables of these statistics are given in Year Book No. 61, pages 1081-4 for 1968-69, and the publication *Manufacturing Census, Industry Concentration Statistics, Australia* (8207.0) for 1972-73.

Foreign Ownership and Control in Manufacturing Industry

Summary information on foreign ownership and control in the manufacturing industry is shown in Chapter 24. More detailed statistics are available in *Foreign Control in Manufacturing Industry, Study of Large Enterprise Groups, 1972-73* (Advance Release) (5314.0), *Foreign Control in Manufacturing Industry, Study of Large Enterprise Groups, 1975-76* (5315.0), *Foreign Ownership and Control in Manufacturing Industry, 1972-73* (Advance Release) (5321.0) and *Foreign Ownership and Control in Manufacturing Industry, 1972-73* (5322.0).

INTERNAL TRADE

Wholesale Trade

For summary tables showing final figures from the 1968-69 census of Wholesale Trade *see* Year Book No. 61, pages 1070-2. Further and more detailed statistics are included in separate publications published by Central and State offices of ABS.

Retail Trade

Retail census

The definition of retail trade, for the purpose of the most recent retail census which was taken for the year ended 30 June 1974, is the resale of new and used goods to final consumers for personal and household consumption. For information and detailed tables relating to the 1973-74 Retail Census, reference should be made to Year Book No. 61, pages 1072-6, and census publications *Census of Retail Establishments and Selected Service Establishments 1973-74—Final Bulletins* (8614.0 to 8619.0, 8620.0 and 8621.0). Summary of operations details of establishments classified by industry group for Australia for 1973-74 are set out in the following table.

RETAIL ESTABLISHMENTS AND SELECTED SERVICE ESTABLISHMENTS: SUMMARY OF OPERATIONS, BY INDUSTRY GROUP, 1973-74

Industry group	Number of establish- ments at 30 June 1974	Employment at end of June 1974 (a)			Wages and salaries (b)	Retail sales	Whole- sale sales	Other operat- ing revenue	Turn- over
		Males	Females	Persons					
RETAIL ESTABLISHMENTS									
		—No.—					—\$m—		
Department, variety and general stores	1,672	36,721	85,582	122,303	407.2	2,399.8	85.0	52.1	2,536.9
Food stores	47,957	99,692	127,582	227,274	429.0	5,073.8	25.1	34.5	5,133.5
Clothing, fabrics and furniture stores	19,334	30,308	57,170	87,478	239.2	2,076.1	7.5	10.0	2,093.6
Household appliance and hardware stores	9,734	26,625	20,044	46,669	151.5	1,110.0	47.2	129.2	1,286.4
Motor vehicle dealers, petrol and tyre retailers	28,170	155,807	36,445	192,252	681.6	5,340.0	1,222.5	915.9	7,478.4
Other retailers	20,139	30,436	48,147	78,583	171.2	1,461.1	13.4	26.7	1,501.2
Total retail establishments	127,006	379,589	374,970	754,559	2,079.7	17,460.9	1,400.7	1,168.4	20,030.1
SELECTED SERVICE ESTABLISHMENTS									
Restaurants and licensed hotels	11,478	63,364	88,871	152,235	416.9	1,290.9	1.7	625.1	1,917.6
Licensed clubs	3,287	33,526	18,186	51,712	185.6	310.9	0.8	348.4	660.0
Hairdressing and beauty salons	9,349	5,896	20,562	26,458	46.7	8.0	—	117.9	125.9
Total selected service establish- ments	24,114	102,786	127,619	230,405	649.2	1,609.8	2.5	1,091.3	2,703.6
Total retail and selected service establishments	151,120	482,375	502,589	984,964	2,729.0	19,070.7	1,403.2	2,259.8	22,733.7

(a) At end of June; includes working proprietors but excludes unpaid helpers.

(b) Excludes drawings by working proprietors.

Retail surveys

In intercensal periods, estimates of the value of retail sales by broad commodity groups are obtained quarterly by means of sample surveys for each State and Australia.

The following table shows the value of retail sales of goods in each of the commodity groups specified. The figures have been obtained from a sample based on the 1973-74 Retail Census. More detailed information concerning the quarterly surveys of retail trade is contained in the quarterly publication *Retail Sales of Goods, Australia* (8503.0).

VALUE OF RETAIL SALES: COMMODITY GROUPS (a)

(\$ million)

<i>Commodity group</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>
Groceries	3,714.4	4,264.5	4,807.8
Butchers' meat	1,272.6	1,422.5	1,661.5
Other food (b)	2,091.1	2,366.6	2,646.7
<i>Total food and groceries</i>	<i>7,078.1</i>	<i>8,053.6</i>	<i>9,116.0</i>
Beer, wine and spirits	2,845.3	3,140.9	3,559.6
Clothing and drapery	3,252.6	3,601.5	3,876.3
Footwear	509.6	576.2	636.0
Hardware, china and glassware(c)	840.9	967.6	1,104.5
Electrical goods(d)	1,934.1	1,857.5	1,888.0
Furniture and floor coverings	1,216.3	1,291.9	1,365.0
Chemists' goods	1,140.2	1,240.5	1,359.1
Newspapers, books and stationery	775.2	866.4	961.0
Other goods(e)	1,840.3	2,047.3	2,304.3
Total (excluding motor vehicles, etc.)	21,432.6	23,643.4	26,169.8

(a) Excludes Northern Territory and Australian Capital Territory.

(b) Includes fresh fruit and vegetables, confectionery, soft drinks, ice cream, cakes, pastry, cooked provisions, fish and wrapped lunches.

(c) Excludes basic building materials, builders' hardware and supplies such as tools of trade, paint, etc.

(d) Includes radios, television and accessories, musical instruments, domestic refrigerators, etc.

(e) Includes tobacco, cigarettes, etc., sporting goods, etc., but excludes grain and produce and business machines.

Retail sales of goods at constant prices

The following table shows series of the value of retail sales of goods at constant prices. The scope of the series at average 1968-69 prices is identical to that of the series at current prices based on the 1968-69 Retail Census, while the scope of the series at average 1974-75 prices is identical to that of the series at current prices based on the 1973-74 Retail Census.

A detailed description of the nature of these estimates at constant prices, and of the sources and methods used in preparing them, can be found in the Explanatory Notes of the March 1978 issue of *Retail Sales of Goods* (8503.0).

VALUE OF RETAIL SALES OF GOODS AT CONSTANT PRICES BY BROAD COMMODITY GROUPS(a)

(\$ million)

<i>Broad commodity group</i>	<i>At average 1968-69 prices(b)</i>	<i>At average 1974-75 prices(c)</i>				
	<i>1974-75</i>	<i>1974-75</i>	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>
Food and drink	5,023.0	7,429.6	7,621.0	7,932.8	8,218.8	8,262.9
Clothing, hardware, electrical and furniture	4,115.1	5,984.9	6,217.3	6,221.2	6,101.1	6,144.2
Other	1,901.2	2,925.2	2,929.9	2,973.7	3,064.6	3,147.7
Total (excluding motor vehicles, parts, petrol, etc.)	11,039.3	16,339.7	16,768.2	17,127.7	17,384.5	17,554.8

(a) Excludes Northern Territory and Australian Capital Territory.
1973-74 Retail Census.

(b) Series based on 1968-69 Retail Census.

(c) Series based on

CHAPTER 18

ENERGY

Introduction

Australia is an energy rich country, with major reserves of coal and natural gas and substantial reserves of uranium. Australia's known reserves of crude oil are however small. While Australia is currently about 70 per cent self-sufficient in crude oil, this will decline, in the absence of new discoveries, to less than 20 per cent by the end of the century. Whilst there are no known deposits of heavy-oil or tar sands, there are extensive deposits of oil shale which are located primarily in Queensland. Thorium, solar, wave, hydro-power, wind, ocean thermal, wood, geothermal, tidal and crops resources also represent actual or potential energy sources.

Assessments made during 1979-80 indicate that Australia's demonstrated economic recoverable energy resources total 1,248 exajoules (joules $\times 10^{18}$) of which 58 per cent is accounted for by black coal, 27 per cent by brown coal, 12 per cent by uranium with demonstrated oil and gas resources representing only 3 per cent of the total. On a state basis 32 per cent of Australia's recoverable economic energy resources (other than uranium) are located in Victoria, almost all of which is brown coal. Queensland accounts for about 36 per cent of national energy resources and New South Wales for 30 per cent (most of which represents black coal). Significant reserves of natural gas are located in the Gippsland Basin and the Cooper Basin and substantial reserves are known to exist on the North-West Shelf.

Australia's energy resources, combined with abundant supplies of many raw materials, create the opportunity for a large expansion in energy exports and the development of energy intensive industries. Despite this relative abundance, Australia shares the world-wide concern regarding the growing shortage of energy resources, and in particular oil resources. The energy problem is a global one and Australia is participating in discussion on energy with its industrialised partners within the International Energy Agency (IEA) and in other international fora, especially the United Nations and its agencies. The IEA has emphasised the need for measures to reduce levels of oil imports, to use oil more effectively and to develop alternative energy sources.

The immediate aim of Australia's energy policy is to reduce dependence on imported oil and ensure that secure and stable supplies of energy—particularly liquid fuels—are readily available. In the longer term, the aim is to develop a diversified energy base which will minimise dependence on liquid fuels.

These objectives are being pursued by pricing and tax policies, the pursuit of energy conservation and inter-fuel substitution, the encouragement of exploration and development, support for major energy development projects, the stimulation of energy research and development, and active international co-operation.

The most significant development in shaping the current energy policy was the decision, taken in August 1978, to raise the price of domestically produced oil to full import parity. This resulted in refiners—and hence consumers—paying prices for petroleum products which generally reflected the value of oil on the world market. The move to full import parity was implemented by the addition of a crude oil levy on local production. The proceeds of the levy accrue to consolidated revenue.

The Government's oil pricing policy provides a basic framework within which conservation, interfuel substitution, exploration and development and research into alternative fuels can be pursued. Significant gains have already been made in reducing consumption of petroleum products and in substituting coal and natural gas for oil-based fuels in both industrial and residential uses. The higher real price of oil has been important in encouraging an increase in exploration and development as well as the promotion of synthetic fuel production. For example, the first phase of the Rundle shale oil project is expected to produce about 200,000 barrels of syncrude per day by the early 1990s. The North-West Shelf project in Western Australia is another example of an important energy project in Australia. The project is expected to cost \$8,000m and will provide a substantial proportion of Western Australia's energy requirements as well as being an important source of export income. The Western Australian State Energy Commission will be constructing a 1,500 km pipeline from Dampier to Perth to carry the gas to the south-west of the State. Natural gas provides an attractive alternative to crude oil products and the Government is anxious to extend natural gas pipelines to provide wider access to this energy source.

Advice and co-ordination

International Energy Agency

The International Energy Agency (IEA) was established in Paris in November 1974 as an autonomous institution within the framework of the Organization for Economic Co-operation and Development. (Australia did not seek membership at that time.)

In January 1979 Australia applied for membership. This application was accepted by the IEA Governing Board in March 1979, and Australia formally became the twentieth member of the IEA in May 1979. Other members of the IEA are Austria, Belgium, Canada, Denmark, the Federal Republic of Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States of America. The Agency is supported by a permanent Secretariat headed by an Executive Director.

The objective of the IEA is to implement the International Energy Program as set out in the Agreement authorising the establishment of the Agency. This Agreement encompasses the development of a common level of emergency self sufficiency in oil supplies, establishment of common demand restraint measures, the creation of an Emergency Oil Sharing Scheme (EOSS) to be activated in an emergency supply situation, an information system on the international oil market and a framework for consultation with oil companies. The IEA is particularly active in energy research projects and is promoting closer relations with producer countries.

In October 1977 the IEA adopted a Group Objective of limiting oil imports to 26 million barrels per day by 1985. Principles for Energy Policy were also adopted which provide an international policy framework to assist Governments in the definition of national energy policies. In March 1979 IEA member countries agreed to reduce their demand for oil on the world market in the order of 2 million barrels per day, and in May 1979 adopted the Principles for IEA Action on Coal to boost, significantly, the use of coal. The Coal Industry Advisory Board was established in 1979 to provide practical advice to the IEA on the implementation of these Principles. Australia is represented on the Board. In December 1979, IEA Member Countries adopted a system of individual country oil import targets as an energy conservation measure.

In 1980 the IEA established a High Level Group on Energy Technology Commercialisation, composed of senior policy making officials, to implement the report of the International Energy Technology Group on the accelerated introduction of new energy technologies. This acceleration is aimed at enhancing production of alternative liquid fuels.

The IEA decisions which are binding on members are made by the Governing Board of the Agency. The Governing Board is composed of Ministers (or delegates) from member countries. The Management Committee composed of senior officials from each member country, carries out functions assigned to it in the Agreement or delegated by the Governing Board. Standing Groups have been established to monitor developments in Long-Term Cooperation, the Oil Market, Emergency Questions and Relations with Producers and Other Consuming Countries and Research and Development.

National Energy Office

Reviewing energy policy and providing policy advice on an ever increasing range of energy matters is a major task for the National Energy Office. It provides policy advice on energy pricing and taxation, and also provides departmental support for the National Energy Advisory Committee (NEAC) and the National Energy Research, Development and Demonstration Council (NERDDC), and contributed substantially to participation by the Department of National Development and Energy in the work of the Australian Minerals and Energy Council (AMEC).

National Energy Advisory Committee (NEAC)

The National Energy Advisory Committee was established on an interim basis in February 1977 and as a permanent committee in February 1978. Its functions include the provision of advice on Australia's energy reserves and on factors likely to influence the pattern of energy supply and demand, and future costs, in Australia; the assessment and development of our energy resources; and economy in the use of energy. The Committee is also required to offer advice on the balance of resources for research relating to the development of energy sources in Australia, and on development both here and overseas in respect of methods and technology associated with the production and distribution of energy.

The Committee consists of 18 members who have been selected with a view to covering a wide spectrum of expertise in the energy area, and appointed on the basis of the personal contribution which they can make to the work of the Committee, as distinct from any representational role they might

otherwise perform. Since its inception, NEAC has published the following reports: *An Australian Conservation of Energy Program* (September 1977); *Australia's Energy Resources: An Assessment* (December 1977); *A Research and Development Program for Energy* (December 1977); *Motor Spirit—Octane Ratings and Lead Additives* (February 1978); *Electric Vehicles* (June 1978); *Exploration for Oil and Gas in Australia* (December 1978); *Fuel Economy Goals for Passenger Cars* (May 1979); *Efficient Use of Liquid Fuels in Road Vehicles* (July 1979); *Liquid Fuels—Longer Term Needs, Prospects and Issues* (December 1979); *Strategies for Greater Utilisation of Australian Coal* (May 1980) and *Natural Gas: The Key Issues* (June 1980).

Other Organisations

In May 1978 the then Minister for National Development announced the establishment of a further advisory body, the National Energy Research, Development and Demonstration Council. The Council advises the Minister for National Development and Energy on the development and co-ordination of a national program of energy research in Australia and the disbursement of funds under the National Energy Research Development and Demonstration Program (NERD & D Program). The Council is supported by a secretariat within the National Energy Office of the Department of National Development and Energy.

For further details of the activities of NERDDC see Chapter 25, Science and Technology.

Resources

Black coal

Black coal is currently second to petroleum products as the largest source of primary energy in Australia. In geological terms it varies greatly in age, ranging from Permian to Miocene, or from about 225 million years to 15 million years of age. Within this range the Permian or oldest coal measures are of the highest quality. By world standards, in relation to her present population and consumption, Australia is fortunate in the availability of easily worked deposits of coal. The country's main black coal fields are located in New South Wales and Queensland, not far from the coast and from the main centres of population. Coal is a complex organic rock composed principally of carbon, hydrogen and oxygen, but also containing nitrogen, sulphur and other elements. It has formed from accumulated vegetable matter, which has subsequently undergone chemical and physical changes due to organic decay and to pressure and heat arising from burial. Coal also contains varying amounts of non-combustible materials such as silt and clay deposited as sediment among the vegetable debris: these contribute to the mineral matter content of coal which is related to coal ash. Most Australian coal deposits are classed as bituminous, but there is some sub-bituminous coal and a little anthracite. The bituminous coals have a wide range of properties: volatile contents range from high to low and, although ash tends to be high, the sulphur content is almost universally low.

Identified black coal resources amount to over 526,340 million tonnes which could yield more than half of this in saleable coal. Economically recoverable resources are currently about 20,000 million tonnes, almost all in the Sydney Basin in New South Wales and the Bowen Basin in Queensland. There are other coal bearing basins in New South Wales and Queensland, and small deposits are being worked in Western Australia, South Australia and Tasmania.

For further details relating to the production of black coal in Australia see Chapter 16, Mineral Industry.

Brown coal

About 99 percent of Australia's brown coal identified resources are in Victoria, where the total is estimated at 126,000 million tonnes. Nearly all are located in the Latrobe Valley where 105,000 million tonnes, are recoverable. Small deposits exist in other areas of south Gippsland, in south eastern Victoria at Gillondale and in the south central region at Anglesea, Bacchus Marsh and Altona. Deposits are also known at many places along the southern margin of the continent, as far north as central Queensland, and a large deposit is being tested in the Kingston area of South Australia.

Because brown coal has a relatively low specific-energy value and high water content, its utilisation depends on large-scale, low-cost mining and negligible transportation costs in its raw state. However, as an energy resource, Australia's recoverable economic resources of brown coal are 1.6 times as large as the equivalent category of recoverable non-coking coal (based on thermal equivalents) and are equal to about 65 per cent of total recoverable demonstrated resources of black coal.

In Victoria the brown coal industry has reached a high degree of sophistication in mining, on-site development for power generation, briquetting and char manufacture. In a Victorian Government *Green Paper* published in 1977 the then Victorian Ministry of Fuel and Power estimated that by the year 2000–01, Victorian brown coal requirements will be between 724 and 1,036 thousand terajoules,

or between about 79 and 113 million tonnes per year (production of brown coal in Victoria during 1977-78 was 30,512,000 tonnes). The brown coal deposits of the Latrobe Valley have been developed by the State Electricity Commission of Victoria (SECV) for the generation of electricity. In over a century of operation more than 600 million tonnes of raw brown coal have been mined. This represents less than one per cent of the proven geological reserves.

Oil

After World War II the Commonwealth Government actively encouraged oil exploration. The Bureau of Mineral Resources was able to provide much background information (mainly of the results of geological and geophysical surveys) to organisations participating in the search for oil and the State Mines Departments also afforded considerable assistance. The results of early efforts in the post war period were generally disappointing, but oil was struck at Rough Range, Western Australia, in 1953. Although the flow was short-lived, the discovery marked an important stage in the search, and provided a much needed stimulus for further exploration.

Petroleum is broadly defined as any naturally occurring hydrocarbon or mixture of hydrocarbons, whether in a gaseous, liquid or solid state (excluding coal). Nearly all petroleum occurs in sedimentary rock sequences which contain source and reservoir beds. Australian sedimentary basins that do contain petroleum are thought to be comparable in yield to overseas basins of the same type, but they lack the anomalously rich basins that are found in parts of the Middle East, the United States and Russia. The nature of Australian source rocks and the temperatures that they have undergone have produced lighter oils and a higher proportion of gas to oil than usual elsewhere in the world.

Recovery of oil, by means of wells drilled into a sub-surface reservoir, that relies solely on the natural expansion of reservoir gas and/or on the natural drive of reservoir water, is called "primary". "Secondary" recovery methods involve the artificial reinjection of gas and/or the injection of water. Many other techniques, referred to as "tertiary", may further improve recovery. In modern production, various techniques for enhanced recovery are applied more or less from the beginning to obtain the optimum economic result, hence the ultimate recovery of oil depends on cost (including royalty and levy) and price. No combination of these techniques, however, is capable of recovering all of the oil in a reservoir.

The proportion of gas recovered from gas reservoirs is generally higher than the proportion of oil recovered from oil reservoirs. The ultimate recovery of gas is sensitive to cost (including royalty) and price. These factors control the number of wells that may be drilled to develop the reservoir, the pressure at which the field is to be abandoned and the rate at which the field is to be produced. In terms of size, petroleum fields are not evenly distributed: large fields are few and they generally contain a major proportion of the total petroleum resources of a province. The large fields tend to be discovered early in the exploration of a province, and for this reason it is highly unlikely that the Gippsland Basin contains an oil field larger than Kingfish or that the Rankin Trend of the Dampier Sub-Basin contains a gas field larger than North Rankin.

Major prospects for new oil discoveries are in untested areas and it is likely that most of Australia's undiscovered oil will be contained in only a few fields. Extrapolation from known areas suggests that undiscovered oil will be of the lighter types and that more oil fields than gas fields will be found. The Bureau of Mineral Resources, Geology and Geophysics has estimated that there is an 80 per cent chance of finding, at best, another 150 million cubic metres (950 million barrels) of crude oil in Australia, and a 20 per cent chance of finding more than 600 million cubic metres (3.8 billion barrels). The mean of the BMR estimate, which occurs at 28 per cent probability is, 420 million cubic metres (2,600 million barrels). This compares with recoverable identified economic resources of 300 million cubic metres (1,900 million barrels) and identified sub-economic resources of 35 million cubic metres (320 million barrels). For further details see National Energy Advisory Committee's report *Australia's Energy Resources: An Assessment (2nd Ed.)*.

Most of Australia's identified resources of oil occur in the Gippsland Basin (Vic.), with smaller quantities at Barrow Island (W.A.), in the Cooper Basin (S.A.), Amadeus Basin (N.T.) and Surat Basin (Qld). The best prospects for further major discoveries of oil are probably in water deeper than 200 metres off Western Australia. In 1977-78 24,941,000 cubic metres of crude oil was produced in Australia.

Pricing of Australian Crude Oil

In June 1979 the Commonwealth Government announced new pricing arrangements for locally produced crude oil. Under these arrangements all oil is priced to refiners at the import parity price with the producers receiving an amount dependent on the rate of annual production of the producing field

(or area). The return to producers from parity related oil, defined as either the first 953,925 kilolitres (6 million barrels) per annum produced from each field or a certain percentage of production (50% in 1980–81), depends on the rate of annual production of the producing field as follows:

- For fields producing less than 317,975 kilolitres (2 million barrels) per annum the producers receive the import parity price less a levy of \$18.90 per kilolitre.
- For fields producing between 317,975 kilolitres (2 million barrels) and 2,384,813 kilolitres (15 million barrels) per annum the producers receive \$67.07 per kilolitre, which they were receiving on 30 June 1979 for parity related oil, plus 25% of any increase in the import parity price since then.
- For fields producing more than 2,384,813 kilolitres (15 million barrels) per annum the producers receive \$60.29 per kilolitre increased by the lesser of the percentage increase in the Consumer Price Index since the September quarter 1978 or the percentage increase in the import parity price after 1 July 1979.

Producers receive the controlled return for that part of their production which does not receive the higher parity related returns. Controlled returns received by the producers are based on the price applicable on 31 December 1978 (\$14.66 per kilolitre for Bass Strait and \$18.12 per kilolitre for Barrow Island) plus any increases in compensation for credit terms since then.

The import parity price is currently reviewed every six months (1 January and 1 July) and is based on the landed cost of Saudi Arabian light crude oil at the nearest refinery port to the producing field adjusted for domestic freight costs, quality differential and compensation for credit terms. The current import parity price, from 1 July 1980, is \$173.08/kl (\$27.50/bbl) for Bass Strait crude, \$175.12/kl (\$27.83/bbl) for Barrow Island and \$178.86/kl (\$28.42/bbl) for Moonie and nearby areas.

Crude Oil Allocation Scheme

The crude oil allocation scheme was introduced to stimulate the production of Australian crude oil by ensuring an outlet for this production. The allocation scheme first came into operation in September 1971. On 17 September 1980 the Minister for National Development and Energy announced the extension of the scheme, subject to some modifications, until 31 December 1984.

The scheme provides for the allocation of indigenous crude to refiner marketers based on their market share of most refined petroleum products sold or consumed in Australia. The major petroleum product that currently does not attract an allocation is fuel oil delivered direct into customer owned storages. However inland fuel oil sales are to be phased out from the list of products attracting an allocation over a two year period from 1 January 1981. By 1 January 1983 fuel oil sales will no longer make any contribution to a refiner's allocation of indigenous crude oil.

Another important modification to the crude oil allocation scheme is that from 1 January 1981 producers of crude oil who continue the sale of gas condensate (liquid petroleum produced in association with natural gas) may retain an equivalent volume of crude oil for their own use or disposal outside the allocation scheme. This unallocated crude oil available to producers is subject to the crude oil excise and import parity pricing arrangements. Condensate marketed separately from a crude oil stream is not subject to allocation and excise and is sold at free market prices.

The crude oil allocation scheme facilitates an equitable distribution, to the refiners, of indigenous crude oil priced at import parity.

For details such as government assistance in the discovery and mining of petroleum (including natural gas) in Australia see Chapter 16, Mineral Industry.

Natural gas

The remaining reserves of natural gas (sales gas) in Australia at 30 June 1980 are estimated to be 845.32 billion (thousand million) cubic metres (29.81 TCF). This is made up of 311.97 billion cubic metres (11.01 TCF) in fields or groups of fields which have been declared commercial and combines both Proved and Probable reserves together with 533.35 billion cubic metres (18.8 TCF) of theoretically recoverable reserves which are either geologically proved but uneconomic under present conditions, or are awaiting further appraisal and could be subject to major revision. There are also reserves of condensate and liquefied petroleum gas (LPG) which fall into the same categories. Details of the reserves of natural gas, condensate and LPG for the various geological basins are given below. The outer edge of the Northwest Shelf is considered to contain the bulk of undiscovered resources of gas (650 to 960 x 10⁹m³, or 23 to 34 TCF). Australia's demonstrated resources of natural gas (i.e. sales gas + condensate + LPG) are poorly distributed in relation to local markets. Most of the demonstrated resources are contained in only three areas—Gippsland Basin, Cooper Basin and the Dampier Sub-Basin of the Carnarvon Basin—and a high proportion of the total is offshore.

REMAINING RESERVES AT 30 June 1980

Basin	Declared Commercial			Uneconomic at present		
	Natural (Sales)			Natural (Sales)		
	Gas 10 ⁹ m ³	Condensate 10 ⁶ m ³	LPG 10 ⁶ m ³	Gas 10 ⁹ m ³	Condensate 10 ⁶ m ³	LPG 10 ⁶ m ³
Bowen-Surat (Qld)	1.97	0.12	—	1.64	—	—
Gippsland & Bass (Vic./Tas.)	193.30	29.60	65.60	47.04	8.90	14.2
Cooper (S.A./Qld)	99.83	8.38	14.97	0.54	—	—
Perth (W.A.)	5.95	0.03	—	—	—	—
Carnarvon (Barrow Island) (W.A.)	10.92	0.45	0.09	—	—	—
Carnarvon-Browse-Bonaparte						
Gulf (W.A./N.T.)	—	—	—	458.00	65.43	59.1
Adavale (Qld)	—	—	—	0.59	—	—
Amadeus (N.T.)	—	—	—	25.54	1.54	3.8
Total	311.97	38.58	80.66	533.35	75.87	77.2

The following table shows the production of natural gas in Australia in recent years—

NATURAL GAS	
Year	Million cubic metres
1974-75	4,633
1975-76	5,172
1976-77	6,093
1977-78	6,720
1978-79	7,686
1979-80	9,007

Oil shale

Oil shales are fine-grained elastic sedimentary rocks containing an organic material, kerogen (which is insoluble in ordinary petroleum solvents) and a minor proportion of soluble hydrocarbons (such as bitumen). To obtain oil from shale the kerogen must be heated to about 500°C. The kerogen then decomposes to produce a liquid hydrocarbon mixture (crude shale oil), gases, and a solid residue (spent shale).

Three types of oil shale deposit have been identified in Australia. They range in geological age from Cambrian to Tertiary. Marine deposits which cover thousands of square kilometres and are associated with limestone and marine shale are generally of low to medium grade. They include a comparatively small occurrence of Cambrian age at Camooweal in northwest Queensland, some small deposits of Permian age near Devonport in northern Tasmania and a very extensive deposit of Cretaceous age (including the Julia Creek deposit) in the Toolebuc Formation which underlies a large area of Central Queensland.

Lake deposits may extend over hundreds of square kilometres and may be hundreds of metres thick. They are generally of low to medium grade with average yields of up to about 100 litres/tonne. Lake deposits occur in a number of Tertiary basins in eastern Queensland including the Narrows Graben near Gladstone (containing the Rundle and Stuart deposits); the Duaringa Basin; the Hillsborough Basin near Proserpine (Condor); and the Yaamba, Rossmoya and Herbert Creek Basins near Rockhampton. Most of the lake deposits are in geographically favourable locations and for this reason appear to have the highest potential for exploitation.

Oil shales associated with coal seams are widespread in Permian and Jurassic strata in Queensland and New South Wales. The aggregate thickness of oil shale (generally up to 2 metres) and the real extent (tens of square kilometres) of individual deposits are small relative to the other types of deposit, but yields of oil are high (400-700 litres/tonne). Many of these deposits are unsuitable for open-cut mining because of thick overburden and extensive faulting. They are well situated geographically and several deposits of this type were mined by underground methods in New South Wales and Tasmania between 1865 and 1952. During early exploitation most of the shale oil was refined to produce lighting oils and waxes and many of the small rich deposits were worked out. In later production, mainly during the Second World War, the emphasis was on the production of motor spirit and oils.

Of the Australian oil shale deposits currently under consideration for development the Rundle project is at the most advanced stage of study. Research and engineering studies are under way and the developers plan to begin constructing a plant, to establish, before 1987, the economic and technical feasibility of producing oil from Rundle shale. A \$1 million preliminary feasibility study is also in progress to assess how and when the Julia Creek project could be developed. If the study shows that a viable project is likely, \$50 million may be spent on more detailed studies and on the construction of a pilot plant. Major exploration programs are under way at several oil shale prospects. Resources have been demonstrated at Rundle, Julia Creek and Yaamba and additional resources at Condor, Stuart, Duaringa and Julia Creek have been inferred on the basis of more limited drilling.

Uranium

Australia has about 17 per cent of the Western world's low-cost uranium reserves. The largest deposits are in the Northern Territory, with significant deposits in Western Australia, South Australia and Queensland.

The chief use for uranium is as a fuel for power generation in nuclear reactors and in atomic energy research programs. Relatively small quantities of uranium depleted in the fissionable U^{235} isotope are used for ballast, counterweights and balances in aircraft, radiation shielding, in alloys as a catalyst and glass colorant and in electrical components. The requirement for uranium in power generation is so much larger than the other uses that natural uranium can be regarded for most practical purposes as a fuel for nuclear power reactors.

At present there are no firm plans for the construction of nuclear power plants in Australia.

Uranium exploration began in Australia in 1944 at the request of the United Kingdom and United States Governments. Incentives were subsequently introduced to encourage exploration and about \$225,000 was paid to 35 prospectors under a reward scheme introduced in 1948. A number of significant deposits were identified, particularly in the Katherine/Darwin region of the Northern Territory and the Mt Isa/Cloncurry region in Queensland. Exploration activity reached a peak in 1954.

In the period 1954–71 about 9,200 tonnes of uranium oxide concentrate was produced from five plants at Rum Jungle, Moline and Rockhole in the Northern Territory, Mary Kathleen in Queensland and Radium Hill in South Australia. Uranium requirements for defence purposes decreased in the early 1960s and uranium demand and prices fell rapidly, whereupon exploration for uranium almost came to a standstill.

A revival in exploration in the late 1960s was encouraged by the announcement in 1967 of a new export policy, designed to encourage exploration for new uranium deposits while conserving known resources for future needs in Australia. The renewed exploration activity which followed was very successful—major discoveries were found in South Australia (Beverly Deposit) at end of 1969 and in the Northern Territory (Ranger, Nabarlek, Koongarra, Jabiluka) in 1970 and 1971. These and other discoveries have led to substantial additions to Australia's reasonably assured uranium resources which totalled 299,000 tonnes of uranium.

Uranium production at the Mary Kathleen Mine resumed in 1976; production in 1979–80 was 710 tonnes of uranium.

On 25 August 1977 following consideration of the reports of the Ranger Uranium Environmental Inquiry, the Government announced its decision to allow development of the Ranger uranium deposit to go ahead, and to consider further development on the basis of stringent criteria concerning the environment and Aboriginal welfare in the region. Exports of uranium will be subject to the Government's nuclear safeguards and non-proliferation policies. The Ranger Uranium Mine received authorisation under the Atomic Energy Act in January 1979 and production of uranium concentrate at a planned rate of 2,500 tonnes of uranium a year is expected to commence in late 1981. Government approval was given to the Nabarlek project in March 1979 and mining of the high grade deposit was completed in late 1979. Production of uranium concentrate for the stockpiled ore commenced in June 1980 and is expected to continue for 10 years. The Commonwealth has also approved the development of the Yeelirrie uranium project in Western Australia under the Western Australia Uranium (Yeelirrie) Agreement 1978 between the Western Australian Government and the Western Mining Corporation. Full scale production of uranium concentrate from the mine is not expected to commence before 1985 at the rate of about 2,500 tonnes a year for ten years and 1,000 tonnes a year for a further twelve years.

For statistics relating to mineral exploration in Australia in recent years see the annual publication *Mineral Exploration, Australia* (8407.0).

The *Australian Atomic Energy Commission* (AAEC) was established by the Commonwealth Parliament under the *Atomic Energy Act* 1953 as a statutory body whose main functions are to facilitate the development of Australia's uranium resources and the utilisation of various forms of nuclear energy within the Australian economy.

Moving in its earliest days towards the planning and construction of a nuclear research establishment at Lucas Heights near Sydney, the Commission arranged for a nucleus of scientists and engineers to obtain training and experience through overseas attachments, mainly in the United Kingdom. By the late 1950s a research and development (R & D) program had been initiated at its research establishment.

The AAEC's activities are controlled by a Commission which is responsible to the Minister for National Development and Energy. The Atomic Energy Act provides for the Commission to consist of five Commissioners including a Chairman.

The Commission's current program places emphasis on the following areas: nuclear fuel cycle; energy research and assessment; radioisotopes and radiation; and international relations. The commission operates two nuclear research reactors 'HIFAR' 10MW thermal and 'MOATA' 100kW thermal at Lucas Heights.

Current expenditure by the AAEC is of the order of \$25 million a year. Staff totals some 1,200 professional, technical, trade, administration and support personnel.

The AAEC participates in the activities of the Australian Institute of Nuclear Science and Engineering. The Institute, which has a corporate membership comprising the Commission and the Australian universities, is concerned with the awarding of studentships, fellowships and research grants, with the organising of conferences and with arranging the use of AAEC facilities by research workers within the universities and colleges of advanced education. The Australian School of Nuclear Technology, located at Lucas Heights, is a joint enterprise of the AAEC and the University of New South Wales. Courses are provided regularly on such subjects as radionuclides in medicine, radiation protection and nuclear technology. Participants have been drawn from Australia, New Zealand, Asia, Africa, Papua New Guinea and the Pacific region.

Thorium

Thorium is about three times as abundant in the earth's crust as uranium. However, because of the resistance of primary thorium minerals to chemical alteration, secondary thorium minerals are rare, thorium therefore occurs in fewer geological environments than uranium. The bulk of potentially exploitable resources of thorium occur in essentially lower grade accumulations than the exploitable resources of uranium. Most of the world's thorium resources occur in monazite, a complex silicate which is currently recovered primarily for its content of rare-earth oxides. Primary thorium minerals (including monazite) are resistant to oxidation and form economically important placer deposits. Large deposits occur throughout the world in beach and stream placers and also as hard-rock deposits in veins, sedimentary rocks, alkaline igneous rocks and carbonatites.

In Australia, by-product monazite in titanium-bearing minerals sands on the east and west coasts of the continent is currently the only economical source of thorium, although other occurrences of thorium minerals are known. Australia currently supplies about half of the world's monazite requirements.

The Commonwealth Government controls the export of thorium and thorium minerals under the authority of the Customs (Prohibited Exports) Regulations as amended from time to time by Statutory Rules. The export of minerals containing thorium and thorium compounds and alloys is prohibited without the approval of the Minister for Trade and Resources.

Solar energy

Solar energy is available to a varying extent, over the entire surface of the earth and because of this it is difficult to evaluate in the same terms as the more conventional, intensive energy sources. Like wind, tidal and wave energy, solar energy is renewable (in a sense, of course, it is inexhaustible) and shares with these energy sources a number of properties which make it both difficult and costly to collect, store and transform into useful work. Solar energy has the inherent characteristics of low intensity and of geographic, seasonal and daily variations.

The Bureau of Meteorology has at present 21 solar radiation stations at which detailed continuous routine measurements are made to standards recommended by the World Meteorological Organisation.

Solar energy is available in the form of low temperature heat when collected with commercially available flat plate collectors. Further thermal applications of solar energy are in the provision of low-medium temperature process heat for industry and heating and cooling of buildings. Economically successful use of solar energy in these applications will depend on the development of more cost-effective collectors, the careful design of overall systems for storage, transport and use of the energy collectors as well as the price of competing fuels.

As a source of electricity, solar energy may have further uses in supplying remote areas with small-scale electricity generation. Plant material resulting from photosynthesis may be a useful source of

liquid and gaseous fuels for transportation and there are longer-range use possibilities for the hydrogen as both an energy source and energy carrier. The significance of the contribution likely to be made by solar energy between now and the end of the century will depend on a number of factors including research and development and the availability and price of alternative fuels.

Ocean thermal energy

Although the potential energy available from ocean thermal energy conversion (OTEC) is enormous, there are many problems to be overcome before it could become viable. These include the limited efficiency of the heat exchanges, the effect of micro-organisms and corrosion on underwater equipment and the economics of transporting power to land-based load centres. Many observers are pessimistic because of the complexity of these engineering problems and regard the potential of OTEC as speculative. In Australia, virtually no assessment of this energy source has been made. It has been suggested that tropical waters such as those off the Queensland coast would be suitable, but power generated from this area would be a considerable distance from the major power consumers in the south and not competitive with electricity based on coal.

Wind energy

There are a number of difficulties in assessing wind power as an energy resource, most of these stemming from the fact that wind resources are sources of actual kinetic energy and like the other forms of solar-derived energy, cannot be defined and measured in the same way as resources of chemical, nuclear, or potential energy. Available wind energy varies with the wind speed, which in turn varies with geographic location, height above ground, time of day and the seasons of the year. Even over a restricted area, the wind speed can be sharply influenced by topography, shelter, sea breezes and diurnal heating.

Apart from a program carried out in South Australia in the 1950s there has been no systematic assessment of the wind resources of Australia. Wind measurements are made, however, at various sites throughout Australia for climatological and meteorological purposes and the Commonwealth Scientific and Industrial Research Organization (CSIRO) is at present analysing data from existing weather stations in an attempt to better assess Australia's wind resources.

The effective recoverability of wind resources is limited by the need to transmit the power over long distances in Australia and by the fact that no satisfactory means of storing wind energy on a large scale yet exists. At present the use in Australia of this resource is confined to windmills for water pumping and small electricity-generating wind machines. These have been a useful small-scale alternative to conventional sources of energy in remote and isolated areas of Australia and will probably continue to be so in the future.

Future resource potential is almost entirely dependent on advances in technology which can make wind power competitive with conventional forms of power. In Australia there is not the same need for alternative means of large-scale electricity generation as in other countries because of our abundant coal resources. Most large-scale schemes depend on the conversion of wind energy to hydrogen for storage and distribution and there are many problems yet to be solved to make this a realistic proposition. It is unlikely that there will be large-scale use of this energy source in Australia before the end of this century.

Geothermal energy

Most of Australia's geothermal resources are of the conduction-dominated type. The most extensive and well documented study in Australia of subsurface temperatures has been made in boreholes in the Great Artesian Basin. In this basin, about 20 per cent of indexed water bores penetrate to depths greater than 1,000m and since geothermal gradients are generally greater than 30°C/1,000m, it is reasonable to assume that hot water can be obtained from such aquifers. Of the total number of indexed water bores, only a very small proportion have water temperatures greater than 100°C.

Australia's geothermal resources in other basins are probably comparable with that in the Great Artesian Basin, since the extrapolation of flow rates and temperatures to other sedimentary basins is considered geologically reasonable. On a regional scale, it is unlikely that assessments of Australia's geothermal energy will change significantly, although it is possible that local areas of intense heat could be found.

In Australia, it has been estimated by the Bureau of Mineral Resources that identified (demonstrated and inferred) geothermal resources are about 1 per cent of Australia's annual primary energy consumption. This estimate, however, does not imply that these resources are economic, nor that they could be used for efficient electricity generation. Undiscovered geothermal resources may be many orders of magnitude greater than the above estimate.

Tidal energy

Tidal energy is a dispersed energy source derived from regular fluctuations in the combined gravitational forces exerted by the moon and the sun, at any one point on the earth's surface, as the earth rotates. The mean tidal range in the open ocean is about 1 metre, but under suitable hydraulic and topographical conditions, much higher tides than this build up in places around coasts, due to resonance. Because only two commercial tidal plants exist so far in the world, relatively little is known about the possible environmental impact of large-scale utilisation. It is unlikely, however, that tidal installations would be entirely without effect on the ecological life of bays and estuaries within their area of influence due, for instance, to silting and concomitant dredging.

Around Australia there are theoretically very large amounts of tidal energy available, especially on the north-west coast where the tidal range is as great as 11 metres and where the topography is suitable. The tidal potential of this region has been the subject of a series of investigations, including one carried out in 1965 on one of the most promising sites at Secure Bay. It was concluded that a minimum of 12 years' design and construction time would be required, although the cost of electricity at the site would be similar to that derived from conventional thermal stations. However, the long distances to potential markets result in a doubling of these electricity generation costs. Subsequent studies by the State Energy Commission of Western Australia have indicated that lead times and construction costs could be reduced but not sufficiently to make tidal energy economically attractive even if a suitable electricity consumer were nearby.

At present CSIRO has in hand a limited investigation of the tidal resources of Australia. Whatever the conclusions of this survey, the likelihood of early exploitation of this resource would appear to be less than in other countries, if only because of the long distances involved in transmission to population centres. In Australia, the major consumer regions are located along coastlines where the tidal range is very small.

Biomass

Biomass (matter of biological origin) can be utilised as an energy resource in a variety of ways. From the viewpoint of national energy priorities its major potential is as a source of liquid fuels for transport, particularly ethanol and methanol.

The CSIRO has recently completed a survey of the potential for the production of these fuels from agricultural and forestry resources in Australia. The resources considered were; potential new energy crops and forest plantations, as well as the residues from existing crop and forest production. In estimating potential new crop production, it was assumed that all land with suitable climate, soil and terrain for an energy crop would be available for energy farming; except land at present under crops or sown pastures.

The total biomass resources considered could provide a net liquid fuels output of 420 petajoules, 60% of the energy used as liquid fuel in transport in 1977-78. This is a net figure, taking into account the liquid fuel input into production, but not socio-economic considerations such as the possibility that there may be more profitable or socially desirable uses for the land available for new crops. It must be considered as an upper limit only. Largely as a result of the cost of the feedstocks liquid fuel from biomass is not currently cost competitive with petroleum-based fuels.

Ethanol from Sugar Cane

Crops under consideration as feedstocks for fuel ethanol production in Australia are sugar cane, cereal grains, cassava, sugar and fodder beet, and sweet sorghum. Starches and sugars from these crops can be converted by fermentation and distillation to ethanol using well established technology. Over 100 megalitres of ethanol for industrial and potable use is already produced each year from molasses, a by-product of the cane sugar industry. Up to 0.5 megalitres of this will be sold in a 10% ethanol blend with super grade petrol in Mackay for a 12 month marketing trial, commencing November 1980.

There is however little scope to increase production of molasses, and an expanded cane-based ethanol industry would need to use whole cane juice as feedstock. This is attractive because sugar cane has the highest yield of ethanol per hectare of the potential energy crops, averaging 7,000 litres. It has the added advantage that bagasse, the fibrous residue after crushing cane, can be used for the process heat, eliminating use of fossil fuel and substantially improving the energy balance for ethanol production.

There is considerable scope for expanded sugar cane production. Currently 355,000 hectares are used for growing cane. CSIRO has estimated that an additional 285,000 hectares could be used for cane production, but utilisation of most of this land would require the development of new irrigation and milling facilities. As an indication, this level of production would yield a net ethanol output equivalent to 7-10% of our current motor spirit needs.

Ethanol from Other Sources

Cereal and coarse grains (wheat, barley and grain sorghum) give much lower yields of ethanol per hectare, but much larger areas of land are available (11.6 million hectares), mainly in northern New South Wales and Queensland. Utilisation of much of this land would conflict with its present use as

grazing land for sheep and cattle. Ethanol production from cereal grains yields a high protein by-product with potential for use as a human food additive or animal feed. The economics of a cereal based ethanol industry would depend heavily on whether markets would be available for the by-product.

Cassava is a tuberous crop with high starch content which grows in the same geographic regions as sugar cane but can tolerate poorer soil and lower rainfall. Cultivation trials on cassava are currently being conducted. The results suggest that cassava could well be grown as an ethanol feedstock in these areas, particularly on marginal agricultural land and land at present used for grazing. Cultivation trials are also being undertaken on sweet sorghum in Queensland and New South Wales, and on sugar beet in Tasmania.

Oil-seed crops

Owing to their poor compression ignition properties, ethanol and methanol are not ready substitutes for distillate as diesel fuel. On the other hand, recent research in Australia and overseas indicates that vegetable-oils give satisfactory performance as fuels in diesel engines, although further research is necessary to establish, for example, their effects on engine durability.

In 1979-80 oil-seed production in Australia totalled 558,000 tonnes, including safflower seed, sunflower seed, soybeans, rapeseed, linseed, cotton seed, peanuts and lupins. A total of 571,000 hectares was sown to oilseed crops. At one tonne/hectare rapeseed or sunflower would yield 435 litres of oil, equivalent to 380 litres of diesel per hectare. CSIRO is gathering data on the scope for expanded production.

Forests and Agricultural Residues

The rapid rate of depletion of fossil fuels is focussing attention again on wood as a renewable resource, and the potential production of fuels from agricultural wastes. Various fuels may be derived from wood, mainly methanol, ethanol and charcoal. Charcoal can be converted into fuel gas which is usable for a range of applications. Methanol can be produced by pyrolysis of wood and ethanol by hydrolysis and fermentation of wood cellulose.

Based on the definition and classification adopted by FORWOOD Conference, 1974, Australia's estimated productive forest area at 30 June 1978 was 43,825,000 hectares. Of this, plantations comprised 699,300 hectares (coniferous 655,100 and broadleaved 44,200 hectares). It is estimated that by 1984-85 total production and consumption in Australia will reach 1,442,000 tonnes in terms of primary energy consumer. This quantity represents 22.8×10^{15} Joules, an insignificant proportion of Australia's overall energy demand, although, especially in South and Western Australia, firewood has had some regional significance.

The 21MW Mount Gambier power station, in the centre of South Australia's most extensive forestry operations area, has operated since 1957 on wood fuels and a 3.2MW generating station at Nangwarry also uses wood.

Another aspect of wood utilisation which is under study in Australia is forestry residues as a source of fuel. Forest residues are the products left after logging, stems which are removed in silvicultural treatments and the as yet untapped resources of woodland classed as unproductive. Mill residues comprise bark, sawdust, shavings, defective section of the tree bole and off-cuts. It is estimated that the production of sawmill wastes in Australia is 3.5 million tonnes/year. After allowing for the quantities chipped for pulp and other uses, about 2 million tonnes would be available as fuel. Some of this would be included in the consumption of firewood by industry. Utilising the unknown volume of forest residues and unproductive woodlands involve problems of concentration and transport.

The immediate need however is for liquid fuels. It does not seem likely that ethanol from wood will be able to compete with that from other feedstocks which do not require hydrolysis. Methanol is more promising, and use of 15-16 million tonnes of wood to produce a net 4,400 megalitres of methanol may be possible. It is not clear whether methanol from wood could compete against methanol from coal or gas. Either of these options will have environmental consequences which will require thorough investigation before they can be considered.

Electric power

The information contained in this section relates to situations existing and projects contemplated, and may be considerably affected by changes in policy or plans, or by developments in the projects themselves. Greater descriptive and historical detail about the various systems is contained in earlier issues of the Year Book.

Hydro-Power

With the exception of Tasmania, Australia is not well-endowed with hydro-electric resources because of its generally low rainfall and limited areas of high relief. Its hydro-electric resources are confined almost entirely to Queensland, New South Wales, Victoria and Tasmania.

Currently the total installed capacity of hydro-electric generating plant is approximately 5,500 MW, which is about 25 per cent of the total installed capacity of the public electricity supply authorities and provides 20 per cent of the electricity generated owing to its lower use during off-peak periods. Although hydro-electric generating plant currently provides a significant amount of the electricity generated, its relative importance is expected to decline. Most of the economically favourable sites have been developed and only Tasmania and, to a lesser extent, north Queensland, have significant undeveloped resources. The relatively small resources remaining elsewhere may in time be developed for peak load power with or without pumped storage or as ancillary to water management projects. Examples of these respective types are the Shoalhaven Scheme in New South Wales and Dartmouth Dam in Victoria.

Hydro-electric power stations are characteristically high-capital-cost, low-running-cost developments and their economic feasibility compared with thermal stations utilising Australia's abundant resources of low-cost steaming coal is heavily dependent on interest rates and civil construction costs, both of which have increased appreciably in recent years. Tasmania's hydro-power potential is approximately half the total practical potential available in Australia. Currently about 50 per cent of Tasmanian practical potential, which has been estimated at 13,000 GWh/yr. has been developed and projects already committed will raise the proportion to 75 per cent by 1985.

The development of its hydro-power resources has resulted in Tasmania having had the lowest cost electricity in Australia for many years. In recent years, however, the price advantage of hydro-power over coal-fired thermal power has lessened due to the need to develop more remote sites, rising capital costs and high interest rates. Only Tasmania and Queensland have any significant amount of hydro-electric energy left to develop although there are useful amounts left in Victoria and New South Wales. Most of the Queensland potential is in high rainfall areas near Cairns and on the Burdekin River.

Snowy Mountains Hydro-electric Power Act 1949*

In July 1949 the Commonwealth Government established the Snowy Mountains Hydro-electric Authority (*Snowy Mountains Hydro-electric Power Act 1949*) and empowered it: to generate electricity by means of hydro-electric works in the Snowy Mountains area; to supply electricity to the Commonwealth Government (i) for defence and other purposes, (ii) for consumption in the Australian Capital Territory; and to supply the surplus to the States of New South Wales and Victoria.

The Snowy Mountains Act is supported by a detailed agreement between the States of New South Wales and Victoria and the Commonwealth Government with regard to the construction and operation of the Scheme, the distribution of power and water, charges to be made for electricity, and other such matters. The Snowy Mountains Council, established under the terms of the Agreement and consisting of representatives of the Commonwealth Government, the Authority and the States of New South Wales and Victoria, directs and controls the operation and maintenance of the permanent works of the Snowy Mountains Scheme for the control of water and the production of electricity.

Snowy Mountains Hydro-electric Scheme

The broad basis of the Snowy Scheme is to transfer waters, which would otherwise flow to the sea unharnessed, from the Snowy River and its tributaries to the inland system so that the water may be used for irrigation and to provide power. It involves two main diversions: the diversion of the Eucumbene, a tributary of the Snowy, to the Upper Tumut River; and the diversion of the main stream of the Snowy River at Island Bend and Jindabyne to the Swampy Plain River. These two diversions divide the scheme geographically into two sections: the Snowy-Tumut Development and the Snowy-Murray Development (see Plate 40, page 439). For purposes of both power production and irrigation it is necessary to regulate run-off, and this is achieved by the use of Lake Eucumbene (formed by the construction of Eucumbene dam) to control the waters of the Eucumbene and other storages to control the waters of the Murrumbidgee, Tooma, and Tumut Rivers for the Snowy-Tumut Development and of the Snowy and Geehi Rivers for the Snowy-Murray Development. For a description of the Snowy-Tumut and Snowy-Murray Development, and progress of the scheme, see previous issues of the Year Book.

* See also Chapter 15, Water Resources of this issue and the special detailed article in Year Book No. 42, pages 1103-30.

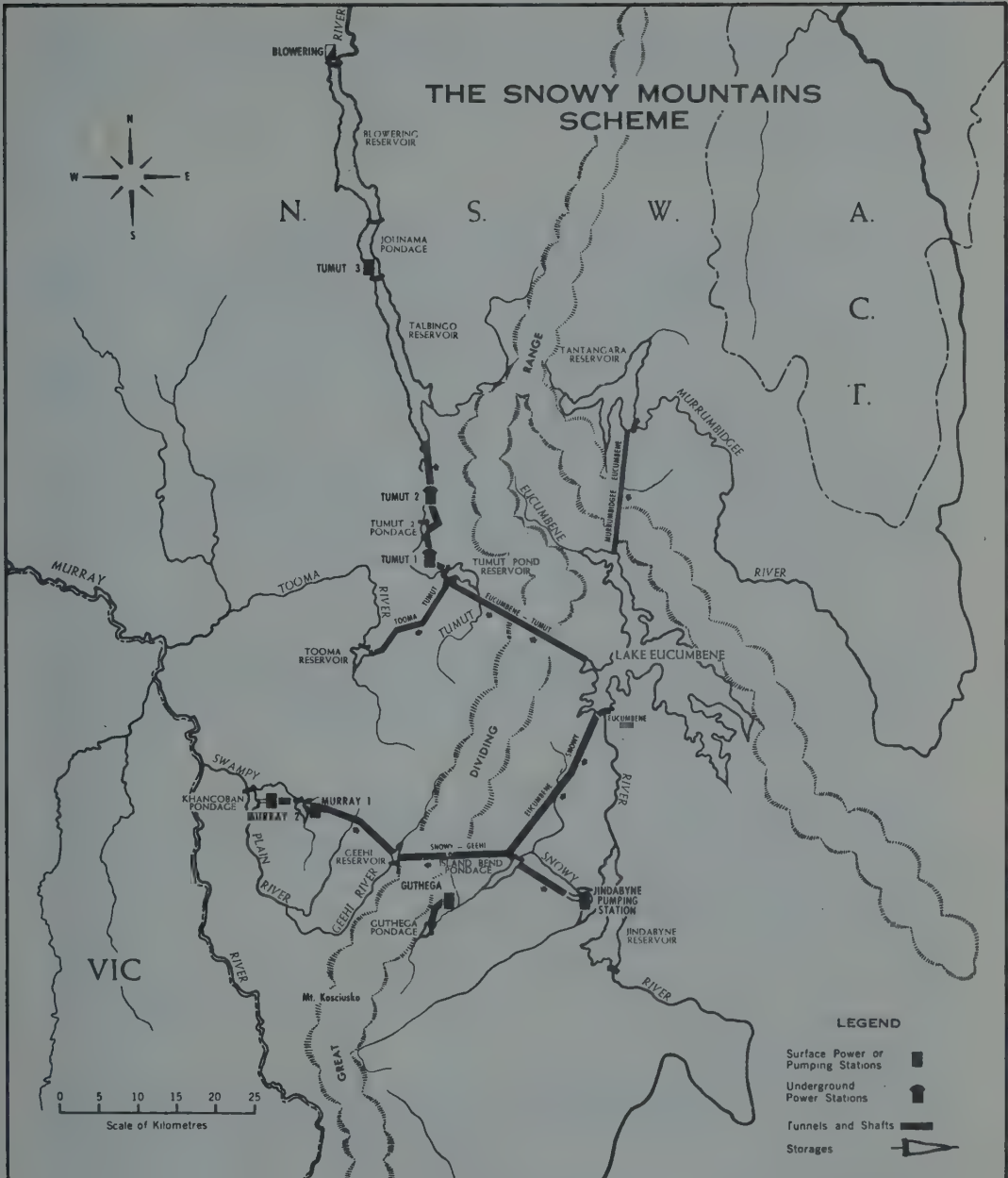


PLATE 40

Utilisation of power from scheme

The Snowy Mountains Scheme is situated about midway between the principal load centres of Sydney and Melbourne and is connected to those cities by 330 kV transmission lines. It is, consequently, in a position to take advantage of the diversity in the power requirements of these two load systems, a most important factor in so far as it affects the economy of operation of the supply systems of the two States. The average annual notified energy of the Snowy Mountains Hydro-electric Scheme is 5,129 GWh a year. The Commonwealth Government reserves 670 GWh for supply to the

A.C.T.; for convenience, the Commonwealth Government's requirements are drawn from the New South Wales transmission network by an exchange arrangement between the Commonwealth Government and the Electricity Commission of New South Wales. Electricity over and above that required by the Commonwealth Government is divided between the States of New South Wales and Victoria in the ratio 2:1.

Electricity generation and transmission

NEW SOUTH WALES

Electricity Commission of New South Wales and electricity supply authorities

The main function of the Commission is the generation and transmission of electricity, which it sells in bulk to distributing authorities (mainly local government bodies) throughout a large part of the State, to the Government railways and to certain large industrial consumers. As the major generating authority, it is also responsible for the development of new power sources except in the Snowy Mountains region.

The retail sale of electricity to the public is, in general, carried out by separate electricity supply authorities. At 30 June 1980 there were 27 retail supply authorities throughout the State, comprising 23 electricity county councils (consisting of groups of shire and/or municipal councils), 1 city council, 1 shire council, and 2 private franchise holders.

Most electricity distribution areas have been consolidated into country districts consisting of a number of neighbouring local government areas grouped for electricity supply purposes and administered by a county council comprising representatives elected by the constituent councils. Of the 205 cities, municipalities and shires in New South Wales, 198 are included in one or other of the 23 electricity county districts.

The Energy Authority of New South Wales (Incorporating The Electricity Authority of New South Wales)

The Electricity Development Act, 1945, confers broad powers on the Energy Authority to co-ordinate and develop the public electricity supply industry. The functions of the Authority include the promotion of the use of electricity, especially its use for industrial and manufacturing purposes and for primary production. Technical advice is given to retail electricity supply authorities on various aspects of their activities such as the framing of retail electricity tariffs, public lighting and the standardising of materials and equipment.

The Authority administers the Rural Electricity Subsidy Scheme under which the rural electrical development of the State has now been virtually completed where the extension of supply is economically feasible. Under the subsidy scheme, local electricity suppliers receive subsidies from the Authority towards the cost of new rural lines. At 30 June 1980 the Authority was committed to the payment of \$43,123,011 in subsidies, of which \$37,363,374 had been paid. Further details of the operation of the scheme are given in Year Book No. 56, page 956.

The Authority also administers the Traffic Route Lighting Subsidy Scheme, which provides for financial assistance to councils towards the cost of installation of improved lighting on traffic routes traversing built-up areas with the objective of reducing the incidence of night road accidents. Since the introduction of the scheme in 1964, subsidy has been approved in respect of some 1,816 kilometres of traffic routes throughout the State.

Generation and transmission

Of the State's electrical power requirements during the year ended 30 June 1980, almost all was generated in New South Wales (93.9 per cent by coal fired power stations, 0.2 per cent by internal combustion plants, 3.6 per cent from the Snowy Mountains Hydro-electric Authority and 1.6 per cent by other hydro-electric stations). Net interstate exports of electricity accounted for the remaining 0.7 per cent.

Major generating stations. At 30 June 1980 the major power stations of the State system of the Electricity Commission of New South Wales and their nominal capacities were as follows: Liddell (Hunter Valley), 2,000 MW; Munmorah (Tuggerah Lakes), 1,400 MW; Vales Point (Lake Macquarie), 2,195 MW; Wangi (Lake Macquarie), 330 MW; Tallawarra (Lake Illawarra), 320 MW; Wallerawang (near Lithgow), 740 MW; Pyrmont (Sydney), 200 MW. The total nominal capacity of the Electricity Commission's system as at 30 June 1979 was 7,737 MW. The greater part of the Commission's generating plant is concentrated within a one hundred and eighty-five kilometre radius of Sydney.

Major transmission network. The retailing of electricity to 97 per cent of the population of New South Wales is in the hands of local distributing authorities, which obtain electricity in bulk from the

Commission's major State network. This network of 330 kV, 132 kV, 66 kV and some 33 kV and 22 kV transmission lines links the Commission's power stations with the load centres throughout the eastern portions of the State, extending geographically up to 650 kilometres inland.

At 30 June 1980 there were in service; 3,672 circuit kilometres of 330 kV and 6,959 kilometres of 132 kV transmission lines (including 298 kilometres operating for the time being at 66 kV). There were also in service 4,917 kilometres of transmission line of 66 kV and lower voltages, and 523 kilometres of underground cable. The installed transformer capacity at the Commission's 173 substations was 26,446 MVA.

Separate systems and total State installed capacity. Several local government bodies operate their own power stations and generate a portion of their requirements which is supplemented by interconnection with the system of the Electricity Commission. Of these, the more important are the Northern Rivers County Council (installed capacity 28.75 MW) and the North-West County Council (15 MW). In addition, a private company operates small stations supplying the towns of Ivanhoe and Wilcannia. The aggregate effective capacity for the whole of New South Wales systems and isolated plants was approximately 7,805 MW at 30 June 1979, while the number of ultimate consumers at this date was 1,939,596.

Future developments

Future projects include the installation of 7,160 MW of coal-fired generating plant over the next eight years. The installation of an additional 500 MW unit is nearing completion at Wallerawang. Four 660 MW units are being installed at Eraring Power Station on the central coast and will be commissioned progressively for full commercial service over the period 1982-1984. At Bayswater Power Station, which is situated in the Hunter Valley, construction has commenced on four 660 MW units for commissioning over the period 1985-1986. Two 660 MW units are planned for Mount Piper Power Station which is located on the western coalfield near Wallerawang. Commissioning of the Mount Piper units is planned for 1987.

Construction of a double circuit 500 kV transmission line between Eraring and Kemps Creek, west of Sydney has commenced. This transmission line will initially operate at 330 kV but operation at 500 kV is planned in 1984. A double circuit 500 kV transmission link will be constructed from Bayswater Power Station to Mount Piper Power Station and thence to Marulan where it will be interconnected with the existing transmission system between the Snowy Mountains and Sydney.

Hydro-electricity

The greater part of the hydro-electric potential of New South Wales is concentrated in the Snowy Mountains area (see Snowy Mountains Hydro-electric Scheme, page 438). Apart from this area, major hydro-electric stations are in operation at the Warragamba Dam (50 MW) and Hume Dam (50 MW). In addition, there are six smaller hydro-electric installations in operation in various parts of the State. A pumped-storage hydro-electric system to produce 240 MW has been installed as part of the Shoalhaven Scheme in conjunction with the Metropolitan Water Sewerage and Drainage Board.

VICTORIA

State Electricity Commission of Victoria

Established under earlier legislation and currently operating under the provisions of the *State Electricity Commission Act 1958*, No. 6377 as a semi-government authority, the principal function of the Commission is to generate or purchase electricity for supply throughout Victoria. The Commission may own, develop and operate brown coal open cuts, and briquetting plant and develop the State's hydro-electric resources. The Commission is required to meet from its own revenue, which it controls, all expenditure involved in operating its power and fuel undertakings and to provide for statutory transfers to the Consolidated Revenue fund of the State.

Since it began operating in 1921 the Commission has expanded and co-ordinated the generation, purchase and supply of electricity on a State-wide basis to the stage where its system generates almost all the electricity produced in Victoria (which has an area of 228,000 sq km) and the transmission network covers practically the entire population of the State. As at 30 June 1980, the Commission had gross fixed assets of \$3,214 million, employed 20,383 persons, had a total income of \$726 million and, during the preceding twelve months, had increased sales of electricity by 3.3 per cent.

Victoria's electricity system is based on the utilisation of the extensive brown coal deposits in the La Trobe Valley in Central Gippsland, about 140 to 180 km east of Melbourne. Total geological resources of brown coal in the La Trobe Valley are estimated at 107,800 megatonnes and, of this quantity, about 30,000 megatonnes are economically winnable and 12,200 megatonnes are readily recoverable using present mining techniques.

In 1979-80 the output of brown coal from the Commission's three open cuts at Yallourn, Yallourn North and Morwell totalled 31.6 megatonnes of which 27.9 megatonnes were used in the Commission's power stations. A further 3.4 megatonnes were used to produce 1.3 megatonnes of briquettes and 0.30 megatonnes was sold to the public. Sales of briquettes to the public totalled 666,000 tonnes, producing an income of \$13.1 million and 565,000 tonnes were used as fuel in power stations.

Electricity generation transmission and supply

In 1979-80 the Commission generated in its thermal and hydro-electric power stations, or purchased 21,843 GWh. The total installed generating plant capacity at 30 June 1980 was 5,210 MW, inclusive of the capacity both within the State and available to Victoria from New South Wales.

The power stations are interconnected and feed electricity into a common pool for general supply. The major generating plant in the interconnected system is the 1,600 MW Hazelwood base load, brown-coal-fuelled power station near Morwell in the La Trobe Valley, which alone generates nearly half of Victoria's electricity. Other brown coal power stations in the interconnected system comprise the established base load stations at Morwell and Yallourn and the partially completed Yallourn 'W' station. Peak load thermal stations are located in Melbourne (Newport, Richmond and Spencer Street and at Jeeralang in the La Trobe Valley). Hydro-electric stations are located at Kiewa, at Eildon, on the Rubicon and Royston Rivers near Eildon and at Cairn Curran. All generators for public supply within Victoria are owned by the Commission except Spencer Street Power Station, which remains the property of the Melbourne City Council although operated as a unit of the interconnected system.

Generation in thermal stations is supplemented by supply from the Commission's hydro stations in the mountains in the north-east of the State and by entitlements from the Snowy Mountains Hydro-electric Scheme in south-eastern New South Wales (one third of output after provision for the Commonwealth Government's needs) and the Hume Power Station on the Murray River boundary with New South Wales (half of output). The Snowy Mountains Scheme is linked to the Victorian system by nine 330 kV transmission lines which allow for a two-way interchange with New South Wales.

At 30 June 1980 the electrical transmission and distribution system in the State supply network comprised 110,776 kilometres of overhead lines and 3,852 kilometres of underground lines. There are 4 auto-transformation stations, 26 terminal substations, 180 zone substations and 84,059 distribution substations. Transmission is mainly by 500, 330, 220 and 66 kV lines which supply the principal distribution centres and provide interconnection between the power stations. The total route length of the 500, 330 and 220 kV lines is 3,739 kilometres.

The Commission sells electricity retail in all Victorian supply areas except for eleven Melbourne metropolitan municipalities. These municipalities purchase electricity in bulk from the Commission and retail it to approximately 271,800 customers within the municipalities concerned under franchises granted by the Victorian Government before the Commission was established in 1921. Bulk supply is also provided to several municipalities in New South Wales and to a number of towns and areas bordering the Murray River.

Complete electrification of the State has virtually been achieved and only a few remote areas do not receive supply. At 30 June 1980 the Commission had 1,295,100 retail customers excluding bulk sales, and the income derived was \$578 million. There were 1,106,800 domestic, 81,200 industrial and 105,600 commercial consumers. In country areas electricity was supplied to about 77,800 farms. Sales of electricity during the period, including bulk supplies, totalled 17,932 GWh and produced total income of \$704 million.

Current and future development

Power station projects currently under construction are Yallourn W, Stage 2 and Loy Yang in the La Trobe Valley; Newport in Melbourne and Dartmouth in north-eastern Victoria. Yallourn W is designed as a 4 unit, base load station of 1,450 MW capacity fuelled by brown coal. The first two 350 MW units are now in commission. The second two units, each of 375 MW capacity, are scheduled to begin operating in 1981 and 1982. The Commission is erecting a 500 MW natural gas fired power station at Newport to come into operation in 1981. A hydro-electric station with one 150 MW unit capacity is being built at Dartmouth in conjunction with the dam currently under construction to come into operation during 1981. The largest project is a major base load generating complex of about 4,000 MW capacity at Loy Yang in the eastern part of the La Trobe Valley, planned to come into service progressively from 1984. A new coalfield is being opened for this development. At Jeeralang, near Morwell, a 225 MW gas turbine station has been constructed and a second station of 240 MW capacity will be put into service progressively during 1980.

QUEENSLAND

Legislation

Queensland's electricity supply industry is regulated by the *Electricity Act* 1976-1980. This Act deals with the organisation and regulation of the generation, transmission, distribution, supply and use of electricity in Queensland and with matters of safety associated with these functions.

State Electricity Commission of Queensland

Its main functions are to plan and ensure the proper development and coordination of the electricity supply industry throughout the State, to enforce safety regulations, to control electricity charges, to raise capital for development, and to administer all electricity supply legislation.

Organisation

Generation and main transmission are functions of the Queensland Electricity Generating Board. It operates the power stations and main transmission lines in the interconnected grid supplying energy from Cooktown to the New South Wales border and west to centres such as Winton and Julia Creek.

The Queensland Electricity Generating Board supplies energy in bulk to seven distributing boards whose responsibility is the distribution of electricity to retail consumers in their respective areas. These boards are the South East Queensland Electricity Board, the South West Queensland Electricity Board, the Wide Bay-Burnett Electricity Board, the Capricornia Electricity Board, the Mackay Electricity Board, the North Queensland Electricity Board and the Far North Queensland Electricity Board.

Four of these distributing boards (the South West Queensland, Capricornia, North Queensland and Far North Queensland) also operate small internal combustion stations in their respective areas.

Electricity generation, transmission and distribution

Ninety-four per cent of the States generation is derived from steam power stations fuelled by black coal. Hydro-electric stations located in North Queensland provide 5 per cent, with the balance being generated by gas turbine and diesel power stations using light fuel oil. The Roma diesel power station also uses locally produced natural gas. Electricity generated by the public supply authorities in Queensland in power stations during 1979-80 totalled 11,355 million kWh. A further 138 million kWh were purchased in bulk from other producers of electricity for re-distribution to consumers.

At 30 June 1980 the total generating capacity of all public supply authorities in Queensland was 3,040 MW, comprising 2,696 MW of steam plant, 132 MW of hydro-electric plant, 49 MW of internal combustion plant and 163 MW gas turbine plant.

The southern-central electricity network is served by the following steam power stations: Swanbank 'A' (396 MW), Swanbank 'B' (480 MW), Tennyson (240 MW), Bulimba (180 MW), Gladstone (1,100 MW) and Callide (120 MW). Gas turbine stations at Middle Ridge (60 MW), Swanbank 'C' (30 MW), Rockhampton (25 MW) and Gladstone (14 MW) also serve the southern-central network. The northern electric network is supplied by a steam power station at Collinsville (180 MW), hydro-electric stations at Kareeya (72 MW) and Barron Gorge (60 MW) and a gas turbine station at Mackay (34 MW).

The electrical transmission and distribution systems within the State comprised approximately 113,623 circuit kilometres of electric lines at 30 June 1980. The main transmission voltages are 275 kV, 132 kV, 110 kV, 66 kV and in certain areas 33 kV and 22 kV. The single wire earth return system is used extensively in rural electrification and nearly 27,400 kilometres of line for this system of distribution was in service at 30 June 1980.

At 30 June 1980 the total number of electricity consumers was 816,000.

Future development

Construction of the power station at Gladstone in Central Queensland is well advanced. When complete, this station will consist of six 275 MW steam sets and one 14 MW gas turbine set. The first four steam sets and gas turbine set are fully operational. The remaining two sets are due for completion in early 1981 and 1982 respectively.

Over \$50 million has been spent on construction of the Wivenhoe Pumped Storage Hydro Electric Project on the Brisbane River. The power station will consist of two 250 MW pump turbine units, to be commissioned in 1983, at an estimated cost of \$180 million. Contracts have been placed for the major plant items comprising turbines, pumps and generators, and construction is underway on the major civil works associated with the project.

Work on the 1400 MW power station, comprising four 350 Mw sets, being constructed on the Tarong coal field is advancing on schedule. Civil works associated with the project are well underway and contracts have been let for major construction works and plant items with a total value of about \$270 million. The first set is programmed to commence service in mid 1984, the second in mid 1985, the third and fourth in early and late 1986, respectively.

SOUTH AUSTRALIA

Electricity Trust of South Australia

In 1946 the assets of the Adelaide Electric Supply Co. Ltd were transferred to a newly-formed public authority, the Electricity Trust of South Australia, which became responsible for unification and co-ordination of the major portion of the State's electricity supply and which took over the powers previously vested in the South Australian Electricity Commission. In addition to the powers specified in the Adelaide Electric Supply Company's Acts, 1897-1931, the Trust may supply electricity direct to consumers within a district or municipality with the approval of the local authority; arrange, by agreement with other organisations which generate or supply electricity, to inter-connect the mains of the Trust with those of other organisations; and give or receive supplies of electricity in bulk.

Capacity and production

Of the total installed capacity in South Australia at 30 June 1979, the Electricity Trust operated plant with a capacity of 1,690 MW, making it the most important authority supplying electricity in the State. There were approximately 551,000 ultimate consumers of electricity in the State, of whom 542,500 were supplied directly and approximately 8,500 indirectly (i.e. through bulk supply) by the Trust. Its major steam stations are Osborne (240 MW), Port Augusta Playford 'A' (90 MW) and Playford 'B' (240 MW), and Torrens Island (880 MW). The Trust also operates a turbo-generator station at Dry Creek (156 MW) and a small station at Port Lincoln (9 MW).

The two main fuels used by the Trust are sub-bituminous coal from Leigh Creek for the Playford power stations at Port Augusta and natural gas from the Gidgealpa-Moomba field for the Torrens Island and Dry Creek stations.

WESTERN AUSTRALIA

State Energy Commission of Western Australia

On 1 July 1975 the Government of Western Australia combined the State Electricity Commission and the Fuel and Power Commission to form a new organisation known as the State Energy Commission of Western Australia. The new Commission is specifically charged with the responsibility for ensuring the effective and efficient utilisation of the State's energy resources and for providing its people with economical and reliable supplies of electricity and gas.

The Commission operates coal-burning power stations at East Perth, South Fremantle, Bunbury and Muja and a coal and oil-burning station at Kwinana. A small hydro-electric station is situated at Wellington Dam near Collie and there is a gas turbine generating plant at Geraldton. A uniform tariff electricity supply is provided from these stations through an interconnected grid system to the Metropolitan Area and the South-West and Great Southern Areas, including an area extending to Koolyanobbing and northwards as far as Binu beyond Northampton. The Commission also owns and operates diesel power stations at Esperance, Fitzroy Crossing, Halls Creek, Kondinin, Kununurra, Onslow, Port Hedland and Roebourne.

Small electricity supply systems too remote to be connected to the grid system or supplied from the Commission-owned diesel stations are still controlled by local government authorities but are being assisted through an agreement whereby the local generating plant and distribution system is operated by the Commission under a subsidy arrangement known as the Country Towns' Assistance Scheme. Under the scheme, the Commission undertakes to operate, maintain, replace or upgrade plant and supply equipment as necessary. At the present time there are 29 country towns supplied under the provisions of the Country Towns' Assistance Scheme.

At 30 June 1980 the Energy Commission's generating capacity from its interconnected grid system was 1,437 megawatts, while the capacity of its separate supply systems in country areas was 127.5 MW. Since then (August 1980) the Energy Commission has synchronised another 200 MW coal-fired generating unit at Muja Power Station, being the first half of the Stage C extensions at Muja. The second 200 MW unit is due to come on stream about August 1981. Plans are now in hand to duplicate the Stage C extensions under what will be known as Muja Stage D. This will give Muja a capacity of 1,040 MW by mid-1985 making it the Energy Commission's biggest power station.

Meanwhile work is proceeding on the conversion of two 120 MW units at Kwinana Power Station from oil to dual coal/oil firing. This project, due for completion in April 1983, follows the successful conversion in 1979 of two 200 MW units at the station from oil to dual coal/oil firing. Another venture with which the Commission is involved is the Dampier to Perth natural pipeline project. Gas to be drawn from the massive offshore reserves in the North-West will overcome restricted supplies presently available at Dongara, and is expected to reduce W.A.'s dependence on oil from about 70% to about 45% by the mid-1980's. The Energy Commission will be responsible for the purchase of gas at Withnell Bay, near Dampier, for sale to customers in the Pilbara and South-West of the State. The Commission will design, finance, construct and operate the 1,500 km onshore pipeline to Perth and Wagerup.

The Commission is also studying various possible alternative methods of supplying power to remote areas of the State. Projects in this regard include the testing of wind powered electric generators on Rottnest Island and solar power plants at Meekatharra and at the Commission's Northern Gas Depot at Ballajura. The integration of separate power generation facilities in the Pilbara and a hydro-electric power station at the Ord Dam are also being considered.

Natural gas is reticulated in most areas of the Perth metropolitan region and in Pinjarra, simulated natural gas (SNG) is reticulated in the Bunbury area, and tempered liquefied petroleum gas (TLP) is reticulated in Albany.

Some details of the Commission's activities for the year ending 30 June 1980 are: number of electricity consumer accounts 419,490 and gas consumer accounts 99,711; electricity generated 5,229 GWh; gas sold 1,106 GWh equivalent; fuel used for electricity generation 2,720,738 tonnes of coal, 127,706 tonnes of fuel oil, and 69,619,760 litres of diesel fuel.

Sales for the year ending 30 June 1980, compared with those for the preceding year, show an increase of 8.5 per cent for electricity and 7.5 per cent for gas.

TASMANIA

A considerable part of the water catchment in Tasmania is at high level. The establishment of numerous dams has created substantial artificial storage which has enabled the State to produce energy at a lower cost than elsewhere in Australia and in most other countries. Another factor contributing to the low cost is that rainfall is distributed fairly evenly throughout the year with comparatively small yearly variations. Abundant and comparatively cheap supplies of electricity played an important role in attracting industry to Tasmania. For information on hydro-electric development in Tasmania prior to the establishment of the Hydro-Electric Commission in 1930, see Year Book No. 39, pages 1192-3.

Hydro-Electric Commission

The Commission was created in 1930, taking over the activities of the Hydro-Electric Department and the existing small hydro-electric installations. Development initially concentrated on hydro-electric generation feeding into a State-wide power grid (King Island from 1951 and Flinders Island from 1968 are outside the grid and are supplied by diesel generators). Unusually low rainfall during 1967 severely restricted the State's generating capacity and prompted the construction of a substantial oil-fired thermal station with a capacity of 240 MW. This station, completed during 1974, is used as required.

Output and capacity of hydro-electric system

For information on the development of the Tasmanian generating system see Year Book No. 61, pages 984-985.

The generator capacity of the Tasmanian system was: hydro, 1,540.4 MW; oil-fired thermal, 240 MW; and diesel, 2.0 MW. Two generators in the Gordon River Hydro-Electric Scheme, Stage 1, were commissioned during 1978, increasing generating capacity by 288 MW. The hydro system's sustainable long-term average loading is estimated at 854 MW.

The current development program involves construction of a system based on the Pieman, Murchison and Mackintosh Rivers in Western Tasmania; these works, which were commenced in 1973, will add 385 MW to the State's power grid.

In October 1979, the Commission released a report which recommended to the Government that an integrated hydro development on the Lower Gordon, King and Franklin Rivers in south-west Tasmania be developed. Other viable alternatives to meet the State's forecast demand for electricity from 1990 to 2000 investigated included a separate development of the same three rivers, a coal-fired thermal station and importation of electricity from Victoria by an underwater cable. The recommended hydro development was planned to add 172 MW to average output in 1990 and a further 168 MW (average) in 1995. The estimated cost of electricity generated from this scheme was under half the cost of

that obtainable from a coal-fired station and only 40 per cent of that obtainable via a Bass Strait link with Victoria. In July 1980 the Government set aside the H.E.C. recommendations in favour of a smaller hydro scheme on the Gordon River above its junction with the Olga River. This would leave untouched, the waters of the Franklin River. State Parliament was expected to make the final decision around November 1980.

AUSTRALIAN CAPITAL TERRITORY

The supply authority is the A.C.T. Electricity Authority which took over the functions of the Canberra Electric Supply Branch, Department of the Interior, on 1 July 1963. Supply was first made available in Canberra during 1915 and was met from local steam plant. Connection to the New South Wales interconnected system was effected in 1929. The Authority electric supply requirements are met by a Snowy Mountains reservation of 670 GWh's and the balance provided by the Electricity Commission of New South Wales. Locally-owned plant consists of 3 MW diesel alternators which are retained as a standby for essential supplies. The total number of ultimate consumers at 30 June 1980 was 78,945. During the year 1979-80 the bulk electricity purchased was 1,454 GWh and the system maximum demand was 412 MW.

NORTHERN TERRITORY

Since 1 July 1978, the responsibility for the generation and distribution of electricity has been under the control of the Northern Territory Electricity Commission, a statutory body which came into operation with the establishment of Self Government in the Northern Territory.

The major electricity supply source in Darwin is the Stokes Hill Power Station which is an oil-fired steam power station with an installed capacity of 141 MW. There are also standby gas turbines with a combined capacity of 40 MW.

Alice Springs, Pine Creek, Katherine, Mataranka, Larrimah, Tennant Creek, Elliott and Tea Tree are supplied by diesel power stations. At Alice Springs the generating capacity is 30.8 MW, Katherine is supplied by an 8.5 MW diesel station while Tennant Creek Power Station's capacity is 6.4 MW.

Other power stations operated by the Commission are: Pine Creek (950 kW), Mataranka (400 kW), Elliott (340 kW), Tea Tree (170 kW) and Larrimah (110 kW). Nhulunbuy is supplied by generators operated by the mining company.

Other communities and Aboriginal settlements in the Territory generate their own power.

ELECTRICITY (a)—THERMAL AND HYDRO

<i>Year</i>	<i>Million kWh</i>
1974-75	73,933
1975-76	76,597
1976-77	82,522
1977-78	86,095
1978-79	90,851
1979-80	95,910

(a) Figures represent estimates of total electricity generated by public utilities, factories generating for their own use, and factories supplying electricity for domestic and other consumption.

Electricity and gas establishments

For electricity and gas, the basic census unit is an exception to the general concept of the standardised unit. Because of the nature of the activities of electricity and gas undertakings, the single operating location basis is not suitable. The establishment unit used consists of all locations, including administrative offices and ancillary units which are mainly concerned with the production and/or distribution of electricity or gas and which are operated by the undertaking in the one State. The use of this concept is one of the reasons for the number of electricity and gas establishments since 1968-69 being considerably less than in previous years. The other main reason is that until 1967-68 a number of electricity generating stations operated by enterprises principally for their own use were included. However, as from 1968-69, these generating stations have been included in the Electricity Census only if sales and transfers of electricity exceeded \$100,000 in value.

ELECTRICITY AND GAS ESTABLISHMENTS—SUMMARY OF OPERATIONS, 1977-78

State or Territory	Establishments at 30 June	Employment at 30 June			Wages and salaries (\$m)	Turnover (\$m)	Stocks		Purchases, transfers in and selected expenses (\$m)	Value added (\$m)	Rent and leasing expenses (\$m)	Fixed capital expenditure less disposals (\$m)
		Males (No.)	Females (No.)	Total (No.)			Opening (\$m)	Closing (\$m)				
New South Wales—												
Electricity	47	24,709	2,323	27,032	314.7	1,483.8	107.2	131.6	726.7	781.5	3.8	249.1
Gas	21	2,345	511	2,856	31.6	111.5	12.7	13.6	43.4	69.0	0.4	11.1
Victoria—												
Electricity	13	15,622	1,390	17,012	198.2	885.0	44.8	51.6	298.4	593.5	3.9	237.9
Gas	1											
Queensland—												
Electricity	11	8,984	929	9,913	116.0	622.3	30.1	35.7	355.4	272.5	1.3	180.3
Gas	7	596	108	704	6.8	30.4	1.7	1.9	13.2	17.4	0.2	2.1
South Australia—												
Electricity	10	5,764	330	6,094	73.1	234.1	17.9	18.6	74.7	160.1	0.2	53.9
Gas	2											
Western Australia—												
Electricity	11	5,232	392	5,624	68.9	259.5	21.3	22.4	100.1	160.6	—	89.0
Gas	2											
Australia (a)—												
Electricity	96	60,271	5,046	65,317	766.8	3,386.3	213.7	255.4	1,520.4	1,907.6	7.9	828.6
Gas	34	7,715	1,367	9,082	99.7	388.5	31.4	31.5	144.5	244.1	2.6	55.1

(a) Includes Tasmania, Northern Territory and Australian Capital Territory. At the end of June 1978 there were 2 electricity and 1 gas establishment operating in Tasmania; 1 electricity establishment in the Northern Territory and 1 electricity establishment in the Australian Capital Territory.

CHAPTER 19

HOUSING AND CONSTRUCTION

This chapter gives details of: the characteristics of dwellings obtained from censuses (pages 449–50); government activities in the field of housing (pages 450–9); financial arrangements associated with the erection or purchase of homes (pages 459–62); a summary of building activities (pages 462–6); and summary of construction (other than building) activities (pages 466–7).

HOUSING

Census dwellings

Further information on dwellings obtained from censuses is available in the detailed tables of the publications issued for each individual census. A list of the 1976 and 1981 Census publications is shown in the *ABS Catalogue of Publications, Australia* (1101.0). The most relevant 1976 census publication is *Population and Dwellings: Summary Tables* (2409.0 to 2417.0). More detailed unpublished dwellings information is available on microfiche and are listed in the *Catalogue of 1976 Census Tables-Final* (2103.0).

At each census of the population, in addition to the questions relating to personal particulars, there have been a number of questions relating to dwellings. A 'dwelling' is defined as any habitation occupied by a household group living together as a domestic unit, whether comprising the whole or only part of a building, and includes, in addition to houses and self-contained flats, a great variety of dwellings ranging from a single-roomed shack to a multi-roomed hotel or institution. This section contains particulars of such information on dwellings as is available from the 1976 Census, together with information from earlier censuses.

Number of dwellings

The following table shows the number of occupied and unoccupied dwellings in Australia at each census from 1947 to 1976. Occupied dwellings are classified into 'private' and 'non-private' dwellings.

Private dwellings were classified into the following categories for the 1976 Census:

private house—includes separate, semi-detached, attached and terrace or row houses.

villa unit—also includes dwellings variously described as town house, cottage unit, villa development, cottage flats.

self-contained flat—part of a house or other building which can be completely closed off and which has its own cooking and bathing facilities. Includes home units.

other private dwellings—comprises non-self-contained parts or rooms of houses, flats or other premises. Also includes sheds, tents, garages, caravans and houseboats occupied on a permanent or semi-permanent basis.

Non-private dwellings include hotels, motels, boarding houses and hostels, educational, religious and charitable institutions, hospitals, defence and penal establishments, caravan parks, staff barracks and quarters, etc.

An unoccupied dwelling is defined as a structure built specifically for private living purposes and which is habitable though unoccupied at the time of the Census. The total number of unoccupied dwellings shown for any area does not represent the number of vacant dwellings available for sale or renting.

DWELLINGS(a): AUSTRALIA, CENSUSES, 1947 TO 1976

Census	Occupied		Total	Unoccupied
	Private	Non-private		
1947	1,873,623	34,272	1,907,895	47,041
1954	2,343,421	36,932	2,380,353	112,594
1961	2,781,945	35,325	2,817,270	194,114
1966	3,155,340	33,917	3,189,257	263,873
1971	3,670,553	24,006	3,694,559	339,057
1976	4,140,521	21,543	4,162,064	431,200

(a) Excludes dwellings occupied solely by Aborigines before 1966.

The total number of occupied and unoccupied dwellings in each State and Territory at the Censuses of 1971 and 1976 were as follows:

DWELLINGS: CENSUSES, 1971 AND 1976

State or Territory	Census 30 June 1971		Census 30 June 1976	
	Occupied	Unoccupied	Occupied(a)	Unoccupied
New South Wales	1,364,542	124,522	1,499,001	152,960
Victoria	1,015,485	88,521	1,126,304	119,592
Queensland	517,245	51,077	602,426	62,686
South Australia	344,112	30,553	392,253	39,768
Western Australia	286,845	28,274	339,105	34,064
Tasmania	110,420	13,307	122,573	15,786
Northern Territory	17,792	929	23,270	2,292
Australian Capital Territory	38,118	1,874	57,132	4,052
Australia	3,694,559	339,057	4,162,064	431,200

(a) Includes non-private dwellings.

Former arrangements between Commonwealth and State Governments

Over the period between 1945 and 1971, public housing was provided under the terms of a series of Housing Agreements entered into between the Commonwealth and the State Governments. For more detailed explanations, see Year Book No. 61, page 228.

With effect from 1 July 1971, a new arrangement was introduced under which the State Governments allocated loan funds for public housing purposes and were financially assisted by the Commonwealth making payments of non-repayable interest-free grants under the *States Grants (Housing) Act 1971*. Originally, that Act was to operate in respect of five financial years, but in 1973 it was amended to apply to operations in 1971-72 and 1972-73 only. For further information regarding the *States Grants (Housing) Act 1971* see Year Book No. 59, page 210.

A further Housing Agreement was entered into between the Commonwealth and all States in 1973 in relation to welfare housing. It was amended in some minor respects in 1974. See Year Book No. 63, page 410 for further details.

1978 Housing Agreement

This Agreement between the Commonwealth and the six States (excluding Northern Territory) is operative for a three year term ending 30 June 1981. Commonwealth advances to the States are repayable over 53 years at an interest rate of 4.5 per cent per annum for Home Purchase Assistance and 5 per cent per annum for Rental Housing Assistance. The allocation of advances to these two programs each financial year is determined by the Commonwealth Minister in consultation with each State Minister.

Home Purchase Assistance

In the third year of the Agreement at least 40 per cent of total advances made to a State is to be allocated to that State's Home Purchase Assistance Account (HPAA). Funds available in the HPAA are used principally to make loans to terminating building or co-operative housing societies and approved State lending authorities for on-lending to home purchasers. The interest rate charged by a State to societies and approved lending authorities must be not less than 5 per cent per annum in the first full financial year, increasing by 0.5 per cent per annum until a rate equivalent to 1 per cent below the long term bond rate is reached, and thereafter varying with movements in the long term bond rate. Eligibility conditions are set by the State ensuring that loans are only made to those who cannot obtain mortgage finance on the open market. Provision is made in the Agreement for a number of flexible lending practices, such as escalating interest loans with income geared starts, to be applied by a State subject to variation in repayment in the event of hardship.

Rental Housing Assistance

Funds are used principally for the provision of rental housing by State housing authorities but may be used for other purposes such as urban renewal, funding of voluntary housing management groups and allocations to local government bodies to provide rental housing. Each State determines eligibility for rental housing ensuring that assistance is directed to those most in need. The level of rent is also fixed by each State having regard to a policy of generally relating rents to those on the open market.

Rental rebates are granted to those tenants who cannot afford to pay the rent fixed. Each State may determine its own policy on sales of rental dwellings but all sales must be at market value or replacement cost and on the basis of a cash transaction. Home Purchase Assistance funds may be used to finance the purchase of rental dwellings.

Housing Agreement (Servicemen)

Prior to 30 June 1971, housing for servicemen was provided under the terms of the 1956-1966 Housing Agreement which, in the main, was concerned with public housing and which expired on that date. With effect from 1 July 1971, a separate agreement was concluded between the Commonwealth and State Governments to provide for the construction of dwellings for allotment to servicemen and for improvements to existing accommodation occupied by them. Programmes are negotiated annually and the full capital cost is made available by the Commonwealth in repayable, interest-bearing advances to the States.

Operations under the 1973-1974 Housing Agreement, 1978 Housing Agreement and the Housing Agreement (Servicemen)

The following tables show the results of operations under the 1978 Housing Agreement and the Housing Agreement (Servicemen) during 1978-79 and 1979-80. Corresponding figures for 1977-78 appear in Year Book No. 64, page 483.

1978 HOUSING AGREEMENT: SUMMARY 1978-79

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Total</i>
HOUSING FUNDS (\$'000)							
Commonwealth advances to States for housing	103,721	82,451	32,257	47,368	29,767	20,436	316,000
Rental Housing Assistance Program	72,605	—	10,257	22,565	20,837	16,349	142,613
Home Purchase Assistance Account	31,116	82,451	22,000	24,803	8,930	4,087	173,387
Amounts drawn by institutions	62,000	96,600	26,450	30,500	12,200	10,011	237,761
Housing Agreement (Servicemen) advances	5,423	948	5,229	—	—	—	11,600
NUMBER OF DWELLINGS							
Rental Housing Assistance Program—							
Commenced	2,140	1,240	490	1,155	763	850	6,638
Completed	2,920	1,835	604	1,857	745	810	8,771
Under construction at 30 June 1979	2,786	1,453	304	901	302	541	6,287
Home Purchase Assistance Account—							
Purchased—							
New	907	571	583	2,157	25	6	4,249
Other	930	2,099	35	312	14	270	3,660
New construction—							
Approved	274	604	391	349	323	109	2,050
Commenced	367	888	377	n.y.a.	323	130	n.y.a.
Completed	377	886	288	n.y.a.	301	198	n.y.a.
Service housing—							
Agreed program	—	—	—	—	—	—	—
Completed (a)	205	10	164	1	—	—	380
Sales of Rental Dwellings	260	1,779	330	143	64	67	2,643

(a) See footnote (a) on next page.

1978 HOUSING AGREEMENT: SUMMARY 1979-80

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Total
HOUSING FUNDS (\$'000)							
Commonwealth advances to States for housing	52,512	41,744	16,336	23,984	15,072	10,352	160,000
Rental Housing Assistance Program	36,758	—	—	9,000	10,550	6,211	62,519
Home Purchase Assistance Account	15,754	41,744	16,336	14,984	4,522	4,141	97,481
Amounts drawn by institutions	n.y.a.	67,675	22,930	21,440	11,566	9,427	n.y.a.
Housing Agreement (Servicemen) advances	1,360	45	—	—	50	—	1,455
NUMBER OF DWELLINGS							
Rental Housing Assistance Program—							
Commenced	n.y.a.	901	580	n.y.a.	854	659	n.y.a.
Completed	n.y.a.	1,185	436	n.y.a.	764	790	n.y.a.
Under construction at 30 June 1980	n.y.a.	2,179	781	n.y.a.	670	809	n.y.a.
Home Purchase Assistance Account—							
Purchased—							
New	832	265	605	1,121	16	6	2,845
Other	893	1,867	431	698	60	291	4,240
New construction—							
Approved	282	385	396	514	211	85	1,873
Commenced	485	1,205	361	n.y.a.	211	99	n.y.a.
Completed	457	1,264	351	n.y.a.	250	139	n.y.a.
Service housing—							
Agreed program	—	—	—	—	—	—	—
Completed (a)	58	1	2	—	—	—	61
Sales of Rental Dwellings	n.y.a.	639	243	n.y.a.	80	61	n.y.a.

(a) Includes completions of houses for servicemen programmed in previous years.

Rental Assistance to Pensioners Scheme

Year Book No. 61, page 229, gives information on the *States Grants (Dwellings for Aged Pensioners) Act 1969* and the *States Grants (Dwellings for Pensioners) Act 1974*. The latter was extended a further financial year to 30 June 1978 and a further \$10 million was allocated. From 1 July 1978 grants are being provided to the States for 3 years to 30 June 1981 under Part III of the *Housing Assistance Act 1978*. The scheme now allows the States to provide rental housing assistance for other persons in need as well as pensioners defined in the Act. Grants may be used for purposes other than construction of housing, e.g. leasing from the private sector. On 28 June 1979 the Minister for Housing and Construction, in pursuance of section 11 of the Act, declared the following persons to be in need of assistance under this Scheme (a) Aborigines in need of rental housing assistance, (b) Persons eligible for or receiving assistance under Part V of the 1978 Housing Agreement.

RENTAL ASSISTANCE TO PENSIONERS AND OTHER PERSONS IN NEED

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Total
Number of units provided							
1977-78	195	137	78	58	46	14	528
1978-79	309	163	103	81	77	26	759
1979-80 (a)	622	251	214	284	150	50	1,571
Grants Paid							
1977-78 (b) \$'000	4,070	2,530	1,490	930	700	280	10,000
1978-79 (b) \$'000	5,695	3,388	2,050	1,343	1,086	438	14,000
1979-80 (c) \$'000	34,542	22,231	15,700	11,851	11,071	4,605	100,000

(a) Pensioners programs notified by States. (b) Assistance to pensioners. (c) Assistance to pensioners, aborigines and other persons in need.

Commonwealth-Northern Territory Housing Agreement

On 11 March 1980 the Commonwealth and the Northern Territory formally entered into an agreement for the provision of rental housing assistance and home purchase assistance during the two financial years commencing on 1 July 1979. The principles and objectives established under the 1978 Commonwealth-State Housing Agreement are written into the Northern Territory Agreement and provisions made for policies and practices are substantially the same.

In 1979–80 the Commonwealth made available \$8.7 million in advances and \$5.3 million in grants.

N.P. Under the rental housing assistance program, 450 dwellings were commenced and 391 dwellings were completed during 1979–80, 30 dwellings were purchased or acquired during the year.

Defence Service Homes

The *Defence Service Homes Act* 1918 assists certain former and serving members of the Defence Force to acquire a home on concessional terms.

The Defence Service Homes Corporation is, subject to the directions of the Minister for Veterans' Affairs, responsible for the administration of the Defence Service Homes Act.

Persons eligible for assistance under the Act include members of the Australian forces and nursing services enlisted or appointed for or employed on active service outside Australia or on a ship of war during the 1914–18 and 1939–45 Wars; persons who served in the warlike operations in Korea or Malaya or who have served on "special service" as defined in the *Repatriation (Special Overseas Service) Act* 1962; and members of the Defence Force who serve on continuous full-time service and national servicemen whose periods of service ended not earlier than 7 December 1972 and who meet certain prescribed conditions. The categories of eligible persons also include the widows and, in some circumstances, the widowed mothers of eligible persons, and persons domiciled in Australia and employed in certain sea-going service during the 1914–18 and 1939–45 Wars.

During 1979–80 the following loan conditions applied:

Maximum loan : \$15,000

Interest rates : 3.75 per cent per annum on the first \$12,000; 7.25 per cent per annum on amounts in excess of \$12,000

Maximum repayment : The maximum repayment period permitted by the Act is 45 years or, in the case of the widow or widowed mother of an eligible person, 50 years; but, normally, the repayment period is limited to 32 years.

Operations under the Defence Service Homes Act

Since the inception of the Defence Service Homes Scheme in 1919, 357,543 loans have been granted to persons eligible for assistance under the Act. All figures shown include homes which were provided originally under the Housing Agreements with the States, and taken over in accordance with those agreements.

The following tables give details of the operations under the Defence Service Homes Act in the year 1979–80. The earliest year for which details are given in the tables is 1975–76; for earlier years *see* previous issues of the Year Book. The figures shown include operations in the Northern Territory, Norfolk Island and in Papua New Guinea.

DEFENCE SERVICE HOMES ACT: NUMBER OF LOANS GRANTED

Year	Construction of homes	Purchase of new homes	Purchase of previously occupied homes	Enlargement of existing homes	Total
1975–76	3,092	1,131	4,408	101	8,732
1976–77	2,772	653	2,605	84	6,114
1977–78	2,379	695	2,970	71	6,115
1978–79	1,904	658	2,720	83	5,365
1979–80	1,734	566	2,846	105	5,251

DEFENCE SERVICE HOMES ACT: STATE SUMMARY OF OPERATIONS

Year	N.S.W.(a)	Vic.	Qld(b)	S.A.(c)	W.A.	Tas	A.C.T.	Total
NUMBER OF LOANS GRANTED								
1975-76	2,543	2,259	1,451	753	1,121	209	396	8,732
1976-77	1,809	1,443	1,035	598	780	126	323	6,114
1977-78	1,729	1,486	1,109	582	763	128	318	6,115
1978-79	1,657	1,042	1,068	559	540	102	397	5,365
1979-80	1,751	1,111	1,039	450	474	107	319	5,251
CAPITAL EXPENDITURE (\$'000)								
1975-76	35,437	32,191	20,501	10,615	16,142	2,810	5,880	123,576
1976-77	26,833	21,874	14,895	9,248	11,880	1,843	4,784	91,357
1977-78	24,948	22,417	15,700	9,769	11,049	1,807	4,631	90,321
1978-79	23,842	14,980	15,438	7,992	7,836	1,467	5,879	77,434
1979-80	25,035	15,835	15,149	6,235	6,923	1,508	4,740	75,425
LOAN REPAYMENTS (\$'000)								
1975-76	23,235	20,824	9,259	6,401	7,515	1,579	(d)	68,813
1976-77	25,095	20,758	9,413	6,173	7,598	1,841	(d)	70,878
1977-78	24,299	19,076	8,513	5,068	6,912	1,590	(d)	65,458
1978-79	29,928	20,670	10,416	6,578	7,848	1,951	(d)	77,391
1979-80	33,425	21,865	13,062	7,361	8,359	1,951	(d)	86,023
NUMBER OF LOAN ACCOUNTS AT 30 JUNE								
1976	65,991	54,194	26,504	16,809	18,371	4,482	(d)	186,351
1977	64,987	52,887	26,377	16,582	18,117	4,370	(d)	183,320
1978	63,864	51,693	26,319	16,456	17,970	4,299	(d)	180,601
1979	62,255	50,192	26,093	16,131	17,540	4,152	(d)	176,363
1980	60,839	48,090	25,529	15,600	16,971	4,006	(d)	171,035

(a) Includes A.C.T. and Norfolk Island South Wales.

(b) Includes Papua New Guinea

(c) Includes Northern Territory

(d) Included in New

Home Savings Grant Scheme

The administration of the Home Savings Grant Scheme is a function of the Department of Housing and Construction. The purpose of the scheme is to encourage people to save over a period towards the ownership of their first home and to assist them financially with its acquisition by means of a home savings grant. A further objective is to increase the funds available in Australia for housing purposes by rewarding savings made with those institutions that provide the bulk of private housing finance. The grant is a tax-free gift, not a loan.

The Scheme was introduced in 1964. Persons who acquired their home on or before 31 December 1976 qualified under the *Homes Savings Grant Act* 1964, the conditions of which are explained in detail in Year Book No. 61, page 233. Details of grants made under this Act up to 30 June 1978 are available in Year Book No. 63, pages 415-6.

Persons acquiring their homes on and after 1 January 1977 may qualify under the *Homes Savings Grant Act* 1976. Applications for grants may be made by persons who, on and after 1 January 1977, contract to buy or build, or commence to construct, their first home in Australia. There is no restriction on the marital status or age of the applicant; except that persons under eighteen years of age must be married or engaged. The home must be intended as the applicant's principal place of residence. Persons who are not Australian citizens must have the right to reside here permanently. Applicants cannot have owned a home or received a grant before.

The amount of grant is related to the 'savings period', which is the period of one, two or three complete years immediately before the contract date, during which the applicant/s must have saved in an acceptable form. The grant is calculated on the basis of \$1 for each \$3 of acceptable savings, including savings held at the beginning of the savings period. A maximum grant of \$667 is payable in respect of a savings period of one year, \$1,333 for two years and \$2,000 for three years. Grants of \$667 first became payable for people contracting to buy or build their home from 1 January 1977. The larger grants first applied, from 1 January 1978 and 1979 respectively.

A qualifying limit applies to the value of the home, including the land, for persons entering into their contracts after 24 May 1979. The limit is \$35,000—\$40,000 for contracts up to 18 August 1980 and \$45,000—\$55,000 for contracts on and after 19 August 1980. The grant calculated on the basis of savings reduces progressively within these ranges, cutting out completely at the upper limit.

The main forms of savings that are acceptable are those most commonly used to accumulate savings for a home, that is, with banks (other than cheque accounts), building societies and credit unions. Savings expended on or before the contract date in connection with the home, such as for the deposit on the home or for the land, are also acceptable.

Full details of the new scheme are available in a booklet, 'Your Home Savings Grant', copies of which are available from the Department of Housing and Construction and from savings institutions. Further information on the operation of the scheme is contained in the Annual Report.

Operations under the Home Savings Grant Scheme

Particulars of applications received and approved during 1979-80 and from inception in respect of the *Homes Savings Grant Act 1976*, are set out below.

HOMES SAVINGS GRANT ACT 1976: OPERATIONS, 1979-80

		<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.(a)</i>	<i>W.A.</i>	<i>Tas.</i>	<i>A.C.T.(b)</i>	<i>Aust.</i>
Applications received	No.	13,590	12,418	6,800	4,802	4,208	1,670	1,011	44,499
Applications approved	"	16,079	13,650	6,258	4,940	4,054	1,686	1,001	47,668
Grants approved	\$'000	19,709	18,037	8,251	6,127	4,624	2,070	1,169	59,987
Average grant approved	\$	1,226	1,321	1,381	1,240	1,141	1,228	1,168	1,258
Expenditure from Consolidated Revenue	\$'000	24,668	21,497	9,246	6,669	5,675	2,265	1,483	71,502

(a) Includes Northern Territory.

(b) Includes Queanbeyan, N.S.W.

HOMES SAVINGS GRANT ACT 1976: OPERATIONS, 1 JANUARY 1977 TO 30 JUNE 1980

<i>Period</i>	<i>Applications received</i>	<i>Applications approved</i>	<i>Grants approved</i>	<i>Average grant approved</i>	<i>Expenditure from consolidated revenue</i>
			\$'000	\$	\$'000
1977-78	58,433	49,790	36,131	726	33,995
1978-79	57,178	51,626	55,514	1,075	20,000
1979-80	44,499	47,668	59,987	1,258	71,502
Total from 1 January 1977	171,960	157,531	157,123	997	130,531

Housing loan interest deduction scheme

The housing loan interest deduction scheme provides for the allowance of an income tax deduction for eligible housing loan interest payments. To qualify, interest paid after 30 June 1976 must relate to the first home of the taxpayer (or of his or her spouse) and be paid during the first five years of occupancy of that first home.

The amount of the housing loan interest deduction that may be an allowable deduction is governed by a 'net income' test under which all eligible interest paid in the relevant income year is deductible if the taxpayer concerned has a net income for that year of \$4,000 or less. For a taxpayer with a higher net income, the percentage of interest deductible is 100 per cent reduced by 1 per cent for each \$100 by which his or her net income for the year exceeds \$4,000. The deduction is therefore not available to a person whose net income is \$14,000 or more.

'Net income' for purposes of the scheme means gross income (including exempt income but not family allowances or domiciliary nursing care benefits) less expenses of a revenue nature incurred in the course of earning the income. In measuring the deduction allowable, the net income of the taxpayer is combined with the net income of his or her spouse.

The deduction will be terminated with effect from 1 November 1978. No reduction on account of housing loan interest paid by an employee may therefore be made in the level of tax instalments deductible under the pay-as-you-earn (PAYE) system from salary or wages paid after 31 October 1978.

Housing loans insurance scheme

The Housing Loans Insurance Corporation was established under the *Housing Loans Insurance Act 1965* to insure approved lenders against losses arising from the making of housing loans. For further information regarding the Corporation and earlier operation of the Scheme, see Year Book No. 61, pages 235-6.

Following amendments to the Act in mid-1977, loans for owner-occupancy homes are insurable without limit on loan amount, interest rate or term. A once-and-for-all premium of 1.4 per cent of the amount of the loan is charged by the Corporation for the insurance of loans up to, but less than, 96 per cent of valuation, with the premium rate falling progressively to a minimum of 0.1 per cent on loans of less than 76 per cent of valuation. On loans from 96 to 100 per cent of valuation, the premium charged is 1.4 per cent of the valuation of the loan plus 10 per cent of the amount so calculated. The amendments to the Act also empowered the Corporation to insure loans for rental housing projects and loans to developers and builders.

From November 1965, when the Corporation commenced operations, until the end of June 1978, 324,000 loans to the value of \$5,254 million had been insured.

State housing authorities

The following paragraphs describe briefly the organisation of the various State housing authorities and their activities in the fields of home construction and provision of homes on a rental basis (*see* pages 459-62, for their financial advances to persons wishing to purchase or build a home). For summarised figures of total government construction of houses and other dwellings, *see* pages 463 and 464.

New South Wales—The Housing Commission of New South Wales. The Housing Commission of New South Wales was constituted in 1942, its principal function being the provision of low-cost housing to persons in the lower or moderate income groups.

Advances from the Commonwealth Government have provided most of the Housing Commission's capital funds and by 30 June 1980 had aggregated \$1,170,350,000 of which \$126,641,000 had been repaid. Other net funds of the Commission at 30 June 1980 comprised: repayable advances from the State, \$179,185,000; public loans raised by the Commission, \$16,497,000; grants from the Commonwealth Government, \$76,390,000; grants from the State, \$28,870,000 (including \$9,670,000 from Consolidated Revenue and \$19,200,000 mainly from proceeds of poker machine taxes); provision for maintenance of properties, \$11,845,000; and accumulated surplus, \$140,608,000. In addition, the Commission owed \$22,388,000 to creditors, mainly for purchase of land and work-in-progress. These funds were represented by fixed assets, \$1,471,760,000 (including \$188,377,000 debtors for purchase of homes); and current assets, \$48,713,000. In 1979-80, the Commission's income was \$150,992,000 (including rent \$127,581,000 and interest \$16,886,000); expenditure was \$135,831,000 (interest, \$52,740,000).

The permanent dwellings provided by the Commission have been erected under the Federal-State Housing Agreements or from State loans and grants. In 1979-80, 3,352 houses and flats were completed for the Housing Commission by private builders on contract to the Commission.

Upon request by other State Departments, the Housing Commission will erect houses for employees of those Departments, the Departments providing the necessary lands and funds. In addition, the Commission erects (with State funds) dwellings for employees of industries connected with decentralisation and development. Specially designed units are erected by the Housing Commission to provide dwellings for elderly persons at rentals within their means. The rents of these units, as at 30 June 1980, were approximately \$11.90 a week for elderly single persons and \$19.30 a week for elderly couples. At 30 June 1980, 10,416 units had been completed.

Victoria—Ministry of Housing. The Ministry of Housing co-ordinates all Government housing activities in Victoria. The authorities within the Ministry are the Housing Commission, Registry of Co-operative Housing Societies and Co-operative Societies, Home Finance Trust (*see* page 460), Decentralised Industry Housing Authority and Teacher Housing Authority.

Housing Commission, Victoria. The Commission was set up in 1938 as a result of the Housing Act of the previous year. Following an amendment to the Housing Act in January 1979, the function of the Commission is defined as assisting the Minister to carry out his duties, which include the determination of the present and future housing needs of the people of Victoria and the taking of steps in relation to: the provision of accommodation for persons in need; the provision of adequate and suitable houses for letting or leasing; the sale of houses to eligible persons; the making of advances to eligible persons for home purchase; the improvement of existing housing by the establishment and enforcement of adequate housing standards; encouraging and assisting in the provision of finance for persons building, purchasing or renovating houses; the development and sale of land for housing; the preparation and implementation of urban renewal proposals; the provision of parks, gardens and community facilities in areas where land or houses have been provided; the provision of shops and commercial facilities or land therefor; the provision of movable units for the accommodation of the pensioner parents of an applicant on the land of the applicant; the provision of housing for officers and employees of government departments and public authorities in circumstances where this is desirable; and the integration of housing under the Act with private housing.

Since the signing of the 1945 Housing Agreement, the construction of dwellings has been financed by the Commonwealth Government and Commission Funds.

At 30 June 1980, the Housing Commission had completed 89,908 dwelling units under the State Housing Scheme and Federal-State Agreements, Works and Services Loans, Service Personnel Agreements (Housing), and Grants for Aged Person Housing. Specially designed dwelling units are erected by the Commission to provide dwellings for elderly persons at rentals within their means. To 30 June 1980, 7,915 such units had been completed. These are also included in the figures for total constructions above.

Queensland—The Queensland Housing Commission. The Queensland Housing Commission was established in 1945 to assist in meeting the housing shortage. In addition, the Commission was empowered to build houses itself, either for sale or for rental.

During 1979–80 the Commission provided 2,792 dwelling units, bringing the total number under all schemes since the revival of housing construction in 1944–45 to 60,660. Of this number 37,597 houses, or 62 per cent, were for home ownership, and 23,063, or 38 per cent, were for rental.

In the field of rental housing the Commission administers and acts as the constructing authority under the Federal-State Housing Agreements and the States Grants (Dwellings for Pensioners) and States Grants (Housing) legislation. Operating under the provisions of the *State Housing Act* 1945–1978, the Commission, through its scheme of worker's dwellings, makes advances for the construction of dwellings to eligible persons who own a suitable building site. The number of workers' dwellings completed during 1979–80 amounted to 2,188, making a total of 36,756 completions since the inception of the scheme. The Commission also has power to make advances, secured by mortgage, to firms for housing of employees. The Commission has power to sell houses under contract of sale conditions. Contract of sale agreements were made to purchase 271 of the Commission's houses during 1979–80.

South Australia—The South Australian Housing Trust. The South Australian Housing Trust was established under the South Australian Housing Trust Act, 1936. In 1940, when the Housing Improvement Act was assented to, the Trust became the housing authority to administer the Act and the Trust's powers were extended. It is also the housing authority for South Australia under the Housing Assistance Act, 1978.

The principal function of the Trust is to provide housing for rental or purchase by the middle–low income earner. It also provides accommodation for groups catering for the disadvantaged, the aged, the disabled, lone parent families, the unemployed, single men and so on. To facilitate the development of South Australia, the Trust, in conjunction with the Department of Trade and Industry, provides industrial land and factories throughout the State.

A total of 89,015 dwellings have been built, purchased or leased by the Trust since 1936. Subject to certain conditions, tenants may purchase the dwelling they rent from the Trust.

For further details see South Australian Year book.

Western Australia—State Housing Commission of Western Australia. The activities of the State Housing Commission extend throughout the whole State. In addition to construction of a variety of dwellings for its own rental and purchase program as determined under the State Housing Act, the Federal State Housing Agreements prior to 30 June 1971, the *States Grants (Housing) Act* 1978 and the 1978 Housing Agreement, its activities include: construction of houses for other Government Departments (both Commonwealth and State Government, and semi- and local government authorities) in Western Australia; and construction and maintenance of houses for the Government Employees' Housing Authority.

At 30 June 1980, the Commission had completed under all schemes since 30 June 1944 a total of 67,736 units of accommodation throughout the State (including 12,046 units completed under the *Defence Services Homes Act* 1918).

During the twelve months ended 30 June 1980, 1,111 units of accommodation were completed: metropolitan area, 289; country, 279; and north of the 26th parallel, 544. A further 654 units were under construction.

Building societies are a major source of housing finance in Western Australia. At 30 June 1980, it was estimated that the assets of all societies were about \$1,950 million. Currently, 10 permanent and 460 terminating societies are operating. Under the Housing Agreement with the Commonwealth the State is required by 1 July 1980 to allocate not less than 40 per cent of the funds the State receives under the Agreement to the Home Purchase Assistance Account. Advances are made from the account to terminating building societies which in turn make loans available to eligible applicants being those persons unable to obtain mortgage finance assistance in the open market or from other sources.

Under the *Housing Loans Guarantee Act*, 1957–1972, the guarantees provided to financial institutions enable loans to be made to lending institutions with full security. The Act enables building

societies and other approved bodies to make high ratio advances to families of low and moderate means without additional charge. The interest rate charged to the borrower may not exceed 10.75 per cent reducible. Loans may be made for up to 90 per cent of the value of the house and land. The maximum loan permitted in respect of the metropolitan region south of the 26th parallel is \$30,600. For a new house situated north of the 26th parallel and in the North West or Eastern Land Divisions, the maximum loan is \$48,600 and in the Kimberley Land Division \$50,400.

Tasmania—Department of Housing and Construction (Housing Division). The Department of Housing and Construction, established in September 1977, is comprised of the Housing and Construction Divisions. The Housing Division is continuing the functions of the former Housing Department which was established in 1953 for the purpose of administering that portion of the *Homes Act 1935* relating to the acquisition and development of land for housing purposes and the erection of homes for rental and sale to those deemed in need of assistance, and the *Casual Worker's and Unemployed Persons' Homes Act 1936*.

During 1979–80 dwelling completions numbered 790. Construction since 1944 totalled 19,312. At 30 June 1980, they comprised 17,001 detached and semi-detached units (9,884 of timber), 1,203 elderly persons' flatettes, 316 multi-unit flats, 763 villa units and 29 moveable units.

The Division now allots all welfare housing accommodation on a rental basis. Weekly rental of a new typical standard home was about \$40.00 at 30 June 1980. In certain necessitous cases, rental rebates are allowed. Under current policy a married couple occupying an elderly persons' unit and whose only income is the age pension pay \$16.00 a week, while a single person solely dependent on the pension pays \$10.00 a week.

Housing schemes in Australian Territories

Northern Territory. In 1946 control of all government-owned residences in the Territory (excluding those belonging to the Defence Services or Commonwealth Railways or attached to post offices) was vested in the Administration. The Northern Territory Housing Commission was established in 1959 and operates under authority of the *Housing Act 1979*. The Commission became autonomous on 1 October 1969 and, in addition to its role of providing residential accommodation to persons of limited means, its functions were broadened as from 1 July 1978 to include the provision of housing for employees of the Northern Territory Government and related authorities and the provision of residential, office, industrial or other accommodation for the Commonwealth and the Territory for public purposes.

Australian Capital Territory. The Commonwealth Government provides houses and flats for rental to persons on low incomes who live or are employed in the Australian Capital Territory. At 30 June 1979 the Department of the Capital Territory controlled 7,688 houses and 3,253 flats for rental purposes. Government rental houses may be purchased by tenants.

Summary of rental activities of government authorities

The first of the following two tables shows the revenue from rental for dwellings under control of government housing authorities each year from 1974–75 to 1979–80, and the second shows the number of tenants paying rent for dwellings under control of government housing authorities at the end of each year 1974–75 to 1979–80.

GOVERNMENT HOUSING AUTHORITIES: REVENUE FROM RENTALS
(£'000)

Year	N.S.W.	Vic.(a)	Qld(b)	S.A.(c)	W.A.	Tas.	N.T.(a)	A.C.T.	Aust.
1974–75	49,401	31,596	13,959	22,271	15,810	4,281	1,739	7,479	146,536
1975–76	63,870	42,031	19,326	28,930	17,040	5,569	2,486	10,839	190,091
1976–77	84,242	49,714	26,766	35,913	19,586	7,368	3,281	15,626	242,496
1977–78	99,566	53,753	32,069	42,331	24,337	9,855	4,467	20,538	286,916
1978–79	114,404	64,556	39,382	42,785	26,829	12,722	9,090	20,658	330,426
1979–80	127,584	68,819	42,924	46,775	27,934	16,100	11,768	20,123	362,027

(a) Figures relate to Housing Commission only. (b) Excludes rentals in respect of tenanted temporary dwellings. (c) Excludes rentals in respect of temporary and emergency dwellings to 30 June 1977, by which date all had been removed.

GOVERNMENT HOUSING AUTHORITIES: NUMBER OF TENANTS PAYING RENT

Year	N.S.W.	Vic.(a)	Qld(b)	S.A.(c)	W.A.	Tas.(d)	N.T.(a)	A.C.T.(d)	Aust.
1974-75	73,021	40,726	18,947	36,752	25,767	5,350	2,012	10,481	213,056
1975-76	78,325	40,057	20,508	37,847	24,791	6,150	3,109	11,152	221,939
1976-77	80,510	40,053	20,772	39,013	24,818	6,695	3,428	10,967	226,256
1977-78	82,893	40,151	21,863	40,129	24,323	7,489	3,665	10,575	231,088
1978-79	85,997	40,049	22,730	41,048	25,011	8,238	5,540	10,550	239,163
1979-80	90,124	40,090	23,063	42,109	25,867	9,258	6,121	10,282	246,914

(a) Figures relate to Housing Commission only.
 dwellings (all removed by 30 June 1977).

(b) Excludes tenanted temporary dwellings.
 (d) Number of occupied dwellings at 30 June.

(c) Excludes temporary and emergency

Advances to home purchasers

Many prospective home purchasers wish to borrow for the purpose of constructing or purchasing their own homes. Usually the loan is covered by way of mortgage of the home to be constructed or bought. Such loans are provided from a number of private sources and from agencies owned or guaranteed by the Commonwealth or State Governments. The information in this section concerns the direct loans made to home purchasers by the more important institutional lenders. Loans to institutions which in turn lend moneys to home purchasers and loans to contract builders, etc. are excluded as far as possible. The loans may be for the construction of new dwellings, the purchase of existing dwellings, for additions, renovations, etc., as first or subsequent mortgages, overdrafts and so on. While figures of all loans to home purchasers are not available, the institutions mentioned account for a significant proportion of total loans. Details of the terms and conditions of lending are given, together with available information on the number and value of loans made.

State and Territory authorities and agencies

New South Wales: Rural Bank of New South Wales—Sale of Homes Agency. A Sale of Homes Agency was established in 1954 to arrange for the sale on terms of houses erected by the Housing Commission of New South Wales. Since 30 November 1976, the sale of these homes on a terms basis has not been permitted, although the Agency still acts as agent for the Commission in collecting instalments payable by purchasers of homes sold prior to that date. The Agency's operations began with the sale to selected purchasers of 100 houses made available by the Commission during 1954-55 and 1955-56. The sales were made on the basis of 10 per cent deposit and repayment of the balance over a maximum period of forty years, with interest at 4.5 per cent per annum. Total advances under that scheme amounted to \$646,648; at 30 June 1980 the advances outstanding amounted to \$105,224 in respect of 33 houses.

Between 1 July 1956 and 30 November 1976, the Sale of Homes Agency acted as the agent of the Housing Commission in arranging the sale on terms of houses erected under the Federal-State Housing Agreements. The terms of sale provided for a minimum deposit of \$200 and repayment of the balance over a maximum period of forty-five years, with interest rates since the inception of the scheme ranging from 4.25 to 6.75 per cent per annum. Particulars of the advances made by the Agency in connection with the sale of houses erected under the 1956, 1961, 1966 and 1973 Agreements and the *States Grants (Housing) Act 1971* are given in the following table.

RURAL BANK OF NEW SOUTH WALES—SALE OF HOMES AGENCY ADVANCES FOR HOMES SOLD UNDER THE 1956, 1961, 1966 AND 1973 FEDERAL-STATE HOUSING AGREEMENTS AND THE STATES GRANTS (HOUSING) ACT OF 1971

Year	Advances during year		Total advances to end of year		Advances outstanding at end of year(a)	
	Number of houses	Amount	Number of houses	Amount	Number of houses	Amount
		\$'000		\$'000		\$'000
1974-75	79	1,514	28,974	241,827	20,779	160,422
1975-76	180	4,402	29,154	246,229	19,939	154,635
1976-77	22	573	29,176	246,802	18,905	144,899
1977-78	—	—	29,176	246,802	17,818	134,529
1978-79	—	—	29,176	246,802	16,802	125,126
1979-80	—	—	29,176	246,802	15,628	114,112

(a) Comprises principal outstanding and loan charges due but not paid.

Prior to 30 November 1976 the Sale of Homes Agency also acted as agent for the Housing Commission in arranging the sale of houses erected by the Commission on applicants' land. Under this scheme persons who had established a housing need could apply to the Commission to have a standard-type dwelling erected on their own land. The houses were sold, at a price equivalent to their capital cost, on the same terms as for houses erected under the 1956 to 1973 Housing Agreements and the *States Grants (Housing) Act* 1971. Up to 30 June 1980, 768 houses had been built at a cost of \$8,197,000, the balance of indebtedness at that date was \$3,848,000.

Rural Bank of New South Wales—Other loans. The Rural Bank of New South Wales provides assistance to individuals for the erection or purchase of homes and for other approved purposes associated with homes. Advances are based on the bank's official valuation of the dwelling. The current rate of interest on new long-term loans for housing purposes is 9.25 per cent per annum.

Victoria: Housing Commission of Victoria. Commission policy is to encourage home ownership; of the 89,908 (1979–88,695) dwelling units built to 30 June 1980, under the State Housing Agreement the Federal State Agreements Housing Grants and Commission Funds, a total of 49,512 (1979–48,386) houses have been sold: 28,351 (1979–27,849) in the metropolitan area and 21,161 (1979–20,537) in the country.

Home Finance Trust. The Home Finance Trust is a corporate body constituted under the *Home Finance Act* 1962. It is authorised to receive money on deposit, the repayment of which is guaranteed by the Government of Victoria, for the purpose of making loans for housing on the security of first and second mortgages. Under the terms of the Act the Trust is precluded from making loans in certain circumstances.

The number of loans granted by the Trust to 30 June 1980 and subsisting totalled 2,437 (1979–2,615) on the security of first mortgage and 3,263 (1979–2,710) on second mortgage, the amount involved being \$23.5 million (1979–\$24.9 million) and \$15.5 million (1979–\$12.9 million) respectively.

(See Savings Banks, page 243 of Year Book No. 61, for activities of the State Savings Bank of Victoria.)

Queensland: Queensland Housing Commission. The major housing scheme financed solely by the State Government is the Workers Dwelling Scheme. Under the *State Housing Act* 1945–79, an eligible person who is the owner of a suitable building site may obtain an advance, secured by mortgage on the land, from the Housing Commission for the erection of a worker's dwelling. The Housing Commission also provides finance for the purchase of homes constructed by the Commission to the applicant's design on Commission land under contract of sale. At 30 June 1980, the maximum advance under both schemes was \$25,000 with interest chargeable at 7½ per cent, and repayments over periods up to 45 years.

South Australia: South Australian Housing Trust Sales Schemes. Prospective purchasers of Housing Trust houses may purchase either by paying cash or by paying a deposit and arranging for a loan on security of a first mortgage from any of the recognised lending authorities. In cases where the deposit and the first mortgage so raised are insufficient, the Trust may advance the balance of the house price on security of a second mortgage, the term of which is usually coterminous, but not exceeding 30 years.

The interest rate was 11.5 per cent at 30 June 1980, and at 30 June 1980 there were 4,946 second mortgages outstanding. A minimum deposit of \$500 was required under the rental-purchase scheme from 1 January 1977 and at 30 June 1979 there were 5,272 advances outstanding under the scheme. The balance of the purchase price is repayable to the Trust in weekly instalments over periods up to 40 years at 5.5 per cent interest per annum.

Western Australia: State Housing Commission of Western Australia. Under current policy commenced by the Commission in October 1976, all sales are on a cash basis through approved Terminating Building Societies with finance to be funded from the Home Purchase Assistance Account where the family is eligible, or from an outside source where the family is ineligible for Home Purchase Assistance Account finance.

Assistance through Terminating Building Societies is available to acceptable applicants under first mortgage conditions if they are able to meet the eligibility requirements. Funds are not available for second mortgages.

The Commission can refer only those applicants who are able to satisfy eligibility requirements to the various Terminating Building Societies. Acceptance of their application for a loan lies with the Society concerned. They are not bound to assist Commission applicants. The interest rate on advances varies from 6 per cent to 9 per cent depending on family income and the maximum repayment period is thirty years.

The Societies are required to accept no less than 3 per cent of the value of the house and land as deposit, but a deposit of 5 per cent or greater is sought by the societies. If the amount of finance required is in excess of the combined maximum advance and deposit provided, a second mortgage or personal loan will be required to bridge the gap.

The income is based on seasonally adjusted average weekly earnings; currently (September 1979) an applicant in the metropolitan area cannot have an income exceeding \$231.35 per week, plus \$5.00 per week for each dependent child in excess of two. The maximum value of house and land is \$30,000 with a maximum advance of 90 per cent of the maximum valuation being obtainable.

The remainder of the State is divided into areas in which the income eligibility varies from \$231.35 per week to \$316.55 per week plus \$5.00 per week for each dependent child in excess of two. The maximum advance in these areas is 90 per cent on the maximum value of house and land which varies from \$30,000 to \$52,000.

(See Savings Banks, page 243 of Year Book No. 61, for activities of the Savings Bank Division of the Rural and Industries Bank of Western Australia.)

Tasmania: Department of Housing and Construction, Housing Division. The interest rate on purchase contract loans at 1 July 1980 was 6 per cent. The number of loans outstanding at 30 June 1980 was 6,263 and the amount outstanding, \$51,460,000.

Agricultural Bank of Tasmania. The Agricultural Bank of Tasmania is responsible for the administration of funds made under the Home Purchase Assistance section of the *Housing Assistance Act* 1978. A new Housing Agreement operating from 1 July 1978 consolidates all past agreements. The State has also provided State Loan Funds for lending under the *Homes Act* specifically available for first home builders. Interest rates vary from 6 per cent to 9.5 per cent depending on need. Repayments are normally 30 years.

Principles which apply under the new agreement include:

- To facilitate home ownership for those able to afford it but not able to gain it through the private market.
- Provide assistance for home ownership in the most efficient way and thus exclude from eligibility those not in need, to minimise continued availability of assistance to those no longer in need and to accord benefits which are designed so that assistance being provided is related to the particular family's or individual's current economic and social circumstances.
- The States are able to exercise maximum autonomy and flexibility in the administrative arrangements necessary to achieve these principles.

The following table shows details for recent years.

AGRICULTURAL BANK, ADVANCES FOR HOUSING (a)

Particulars	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Advances approved:						
Number	453	431	393	366	366	281
Value (\$'000)	6,148	6,100	8,355	8,354	7,532	6,551
Advances outstanding (b) (\$'000)	30,290	33,481	38,832	43,726	49,190	52,740

(a) Excludes advances to Co-Operative Housing Societies.

(b) At end of period.

Northern Territory: Loans Scheme. On 1 October 1979, the Northern Territory Government introduced a loans scheme to provide finance for the erection of houses, the purchase, enlargement or modification of existing dwellings or the completion of partially erected dwellings. This scheme was re-structured on 8 August 1980 and loans are now provided to a maximum of \$50,000 or 98% of house/land valuation. The scheme incorporates a system of variable escalating interest rates with income geared starts. The initial starting interest rates vary according to the borrowers' incomes and escalate by annual increments of 4% per annum up to a common maximum rate. The maximum period of repayment is forty-five years. Where borrowers are capable of obtaining finance privately, loans are proportionately lower and on a second mortgage basis.

Sales Schemes. Two schemes exist to allow eligible tenants of Northern Territory Housing Commission dwellings to purchase. Under the *General Public Sales Scheme*, sales are on a cash basis only to approved tenants who have completed a satisfactory tenancy of at least two years. A *Staff Sales Scheme* also operates to allow tenants of Northern Territory Public Service dwellings to purchase after a qualifying period of two years. Sales are for cash or on terms requiring a minimum deposit of 5 per cent of the purchase price with repayments over a maximum period of 45 years including interest at either 5.75 per cent or 8.75 per cent subject to a means test.

Australian Capital Territory: Loans to a maximum of \$23,000 over a maximum term of thirty-two years may be granted by the Commissioner for Housing for the purchase or erection of dwellings in the

Australian Capital Territory to a person who does not already own a dwelling in the Australian Capital Territory or Queanbeyan; is a bona fide resident of the Australian Capital Territory and has not, or whose spouse has not, already had financial assistance from Government funds for housing in the Australian Capital Territory.

A means test is applied for loans. Applicants whose joint income does not exceed 120 per cent of the Australian male seasonally-adjusted average weekly earnings may qualify for a loan. An additional income allowance of \$2.00 per week is made for each dependent child in excess of two.

The rate of interest for the first year of the loan is 6½ per cent. Thereafter the interest rate increases by ½ per cent each year until it reaches 11 per cent. The interest rates throughout the loan are reduced by 1 per cent if payments are made by the due date. A concessional rate of 6½ per cent (less 1 per cent if payment is made by the due date), applies if the combined gross income of the breadwinner and spouse does not exceed 120 per cent of the Australian seasonally adjusted male average weekly earnings. At 30 June 1980, 13,068 houses were under mortgage to the Commissioner.

Governmental rental houses valued at current market values may be sold to tenants. The basis of the sale is a minimum deposit of 5 per cent of the purchase price fixed by the Department of the Capital Territory with no limit to the amount which may be held on mortgage from the Department. Repayment of the amount covered by mortgage may be made over a maximum period of thirty-two years. There are two rates of interest applicable: the normal rate is 11 per cent (less one per cent for payment by the due date) on the first \$15,000 and 12½ per cent (less one per cent as above) on the remainder of the mortgage; while a concessional rate of 6½ per cent (less one per cent for payment by the due date) applies in situations where the combined incomes of breadwinner and spouse do not exceed 95 per cent of Australian Capital Territory average weekly earnings. In both instances, an allowance of \$2 for each dependent child after the second child is deducted from total gross income. To 30 June 1980, 15,326 houses had been sold to tenants, with 9,263 of these currently under mortgage.

Savings banks, trading banks, life insurance companies and registered building societies

For information on loans approved to individuals for owner occupied housing *see* Chapter 21, Private Finance.

CONSTRUCTION

Building

Building activity is a significant indicator of the level of economic activity. In addition, the level of building activity and the types of buildings being constructed affect the Australian physical and social environment. Building approvals statistics give an indication of the potential future level of investment of private individuals, companies and government agencies in approved building construction. As such, they provide information about potential future building activity. Building operations statistics show the level of actual building construction activity in terms of the level of commencements and completions, building jobs under construction and the value of work done and yet to be done on building jobs.

The building statistical collections cover all new dwellings, new other building jobs valued at \$10,000 and over, and alterations and additions (to both dwellings and other building) valued at \$10,000 and over. From 1966-67 to 1972-73, alterations and additions of \$10,000 and over were included with new dwellings and new other building. From 1973-74, alterations and additions (of \$10,000 and over) to new dwellings are shown separately, but for other building, new work and alterations and additions continue to be shown combined.

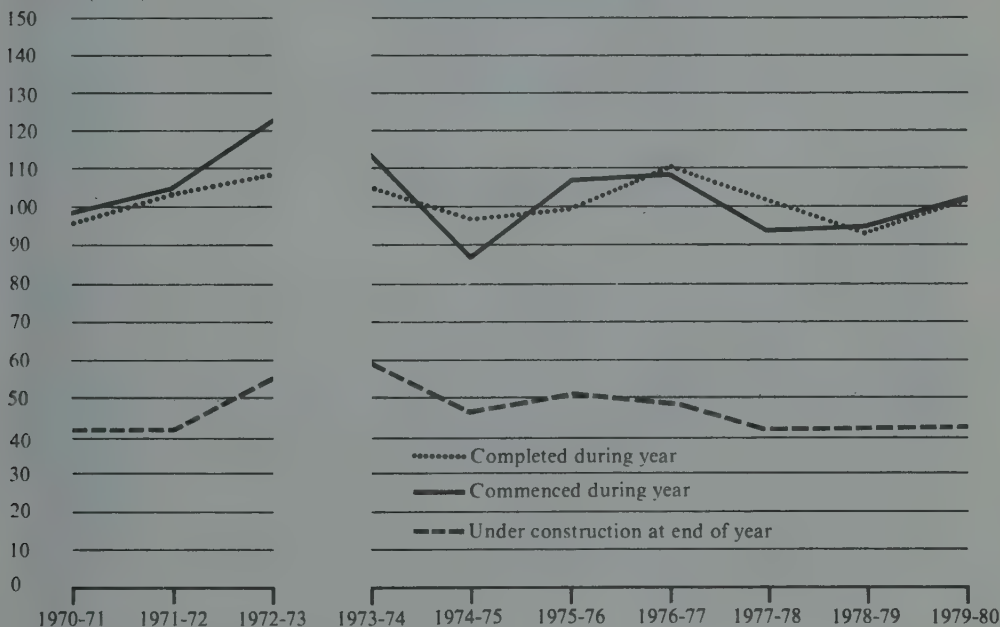
Number of new houses

The following table provides a summary of the number of new houses approved, commenced, completed and under construction by type of ownership in each State and Territory for the year 1979-80. For a graph showing these details over a ten-year period, *see* Plate 41, page 463.

NUMBER OF NEW HOUSES 1979-80
(^{'000})

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
Private—									
Approved	38.5	22.1	22.5	5.9	11.2	2.1	0.6	1.0	104.0
Commenced	32.2	21.1	22.1	5.4	10.7	2.0	0.5	1.0	95.1
Completed	30.1	21.7	22.1	5.8	11.0	2.2	0.5	1.4	94.8
Under construction (a) .	15.0	11.0	5.1	1.7	3.3	1.3	0.3	0.4	38.1
Government—									
Approved	2.1	0.6	0.4	1.4	0.5	0.4	0.6	—	6.0
Commenced	2.2	0.8	0.3	1.2	0.6	0.4	0.6	—	6.2
Completed	1.5	0.9	0.4	0.8	0.7	0.5	0.5	—	5.3
Under construction (a) .	1.6	0.5	0.1	0.9	0.2	0.2	0.4	—	3.8
Total—									
Approved	40.7	22.8	22.9	7.2	11.7	2.5	1.2	1.0	110.0
Commenced	34.4	22.0	22.5	6.7	11.3	2.4	1.2	1.0	101.3
Completed	31.5	22.6	22.5	6.7	11.6	2.7	1.0	1.4	100.1
Under construction (a) .	16.6	11.5	5.1	2.6	3.5	1.5	0.8	0.4	41.9

(a) At end of period.

NEW HOUSES : AUSTRALIA, 1970-71 TO 1979-80Number (^{'000})

Note: Break in series from 1973-74, see page 462.

PLATE 41**Number of new houses completed by material of outer walls**

The use of certain materials for outer walls is dictated by such factors as cost, durability, appearance and climatic conditions. Changes in the materials used over time indicate changes in the characteristics of the housing stock.

The following table shows the number of new houses completed in each State and Territory during the year 1979-80, classified according to the material of their outer walls.

NUMBER OF NEW HOUSES COMPLETED BY MATERIAL OF OUTER WALLS 1979-80
(^{'000})

<i>Material of outer wall</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
Double brick (a)	2.6	1.7	3.4	2.3	9.3	0.2	0.5	0.1	20.1
Brick veneer (a)	24.9	18.4	13.0	3.1	1.5	2.1	—	1.3	64.2
Timber	0.7	1.0	1.5	0.2	0.1	0.3	0.2	—	3.9
Asbestos cement	3.1	1.5	4.5	1.1	0.7	0.1	0.1	—	11.1
Other	0.3	0.1	0.2	—	—	—	0.2	—	0.8
Total	31.5	22.6	22.5	6.7	11.6	2.7	1.0	1.4	100.1

(a) Includes houses constructed of concrete masonry blocks, concrete and stone.

Number of new other dwellings

The level of other dwelling construction is highly variable and does not follow the traditionally regular pattern experienced in house construction. This can be explained partly by the generally larger size of other dwelling construction jobs and also by the extent of speculative building of private flats, home units and similar other dwelling projects. Although construction of government-owned other dwellings is substantial, the proportion of government-owned other dwellings to total other dwellings constructed is smaller than that of government-owned houses to total houses.

The following table shows the number of new other dwellings approved, commenced, completed and under construction by type of ownership in each State and Territory for the year 1979-80. For a graph showing these details over a ten year period, see Plate 42, page 465.

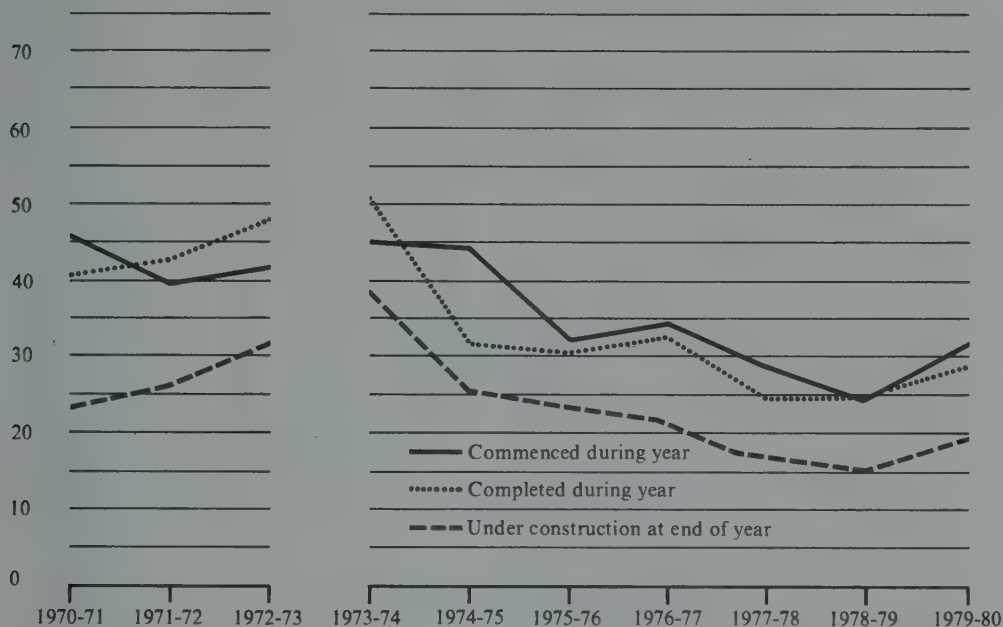
NUMBER OF NEW OTHER DWELLINGS, 1979-80
(^{'000})

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
Private—									
Approved	12.8	3.4	8.0	0.9	4.2	0.5	0.4	0.7	30.8
Commenced	10.6	3.6	7.3	0.9	3.7	0.4	0.3	0.6	27.4
Completed	8.3	3.7	6.4	1.0	3.6	0.5	0.2	0.5	24.3
Under construction (a)	6.9	2.2	3.5	0.5	1.7	0.3	0.2	0.4	15.6
Government—									
Approved	1.8	0.7	0.4	0.5	0.7	0.3	0.1	—	4.5
Commenced	1.7	0.4	0.4	0.6	0.7	0.4	0.2	—	4.4
Completed	2.2	0.6	0.3	0.6	0.5	0.4	0.2	0.1	4.9
Under construction (a)	2.0	0.4	0.3	0.5	0.3	0.3	0.1	—	3.8
Total—									
Approved	14.6	4.0	8.4	1.4	4.9	0.8	0.5	0.7	35.3
Commenced	12.4	4.0	7.7	1.5	4.4	0.8	0.4	0.6	31.8
Completed	10.5	4.3	6.7	1.7	4.2	0.9	0.4	0.6	29.2
Under construction (a)	8.9	2.5	3.8	1.0	2.0	0.6	0.3	0.4	19.4

(a) At end of period.

NEW OTHER DWELLINGS : AUSTRALIA, 1970-71 TO 1979-80

Number ('000)



Note: Break in series from 1973-74, see page 462.

PLATE 42**Number, average value, average value per square metre and average size of private contract built houses**

The following table shows the number, average value, average value per square metre and average size in square metres of private contract built new houses commenced in each Capital City Statistical Division, the Greater Darwin Area and the A.C.T. part of the Canberra Statistical District which comprises the urban areas of the A.C.T. The average value and average value per square metre are based on the final contract price of houses when complete (or estimates of this price) provided by contractors at the time of commencement of building work.

NUMBER, AVERAGE VALUE, AVERAGE VALUE PER SQUARE METRE AND AVERAGE SIZE OF NEW PRIVATE CONTRACT BUILT HOUSES COMMENCED 1979-80

	<i>Capital City Statistical Divisions</i>						<i>Greater Darwin Area</i>	<i>Canberra (A.C.T. part)</i>	<i>Total</i>
	<i>Sydney</i>	<i>Melbourne</i>	<i>Brisbane</i>	<i>Adelaide</i>	<i>Perth</i>	<i>Hobart</i>			
Number ('000)	14.9	10.5	7.9	2.6	7.1	0.4	0.1	0.9	44.5
Average value (\$'000)	37.2	34.7	29.7	35.7	32.1	35.6	43.7	36.9	34.4
Average size (sq. m)	151.7	150.5	144.3	159.7	159.8	140.5	139.6	152.8	151.8
Average value per sq. m (\$)	245	230	206	224	201	254	313	242	216

Value of buildings

The following table shows the value of all buildings approved, commenced, completed, under construction, work done and work yet to be done in Australia for the year 1979-80, according to the class of building. The classification of other building by type of building is according to the function a building is intended to serve as specified on building authorisations.

VALUE BY CLASS OF BUILDING, 1979-80
(\$ million)

<i>Class of building</i>	<i>Approved</i>	<i>Commenced</i>	<i>Completed</i>	<i>Under construc- tion(a)</i>	<i>Work done (b)</i>	<i>Work yet to be done (a)</i>
New houses	3,678.3	3,540.3	3,406.4	1,616.1	3,497.3	840.5
New other dwellings	861.8	884.6	768.4	614.5	828.0	331.9
<i>Total new dwellings</i>	4,540.1	4,424.9	4,174.7	2,230.7	4,325.2	1,172.3
<i>Alterations and additions to dwellings(c)</i>	433.0	396.8	362.6	169.5	384.7	82.9
Hotels, etc.	155.9	138.3	122.9	85.3	122.7	48.0
Shops	401.5	473.0	535.7	311.2	491.7	155.7
Factories	630.1	617.6	501.1	489.9	478.6	288.8
Offices	496.5	525.6	485.5	785.5	538.1	318.4
Other business premises	289.1	332.1	325.6	241.7	329.4	117.5
Education	357.8	357.4	447.1	402.6	418.9	183.1
Religion	33.4	35.6	28.7	22.7	33.4	11.8
Health	145.3	147.0	413.1	424.3	307.9	162.0
Entertainment and recreation	231.7	251.7	213.8	283.5	264.6	152.7
Miscellaneous	236.6	267.6	268.3	373.0	310.1	185.8
<i>Total other building</i>	2,977.6	3,145.9	3,341.6	3,419.7	3,295.2	1,623.9
Total building	7,950.8	7,967.5	7,878.9	5,819.9	8,005.2	2,879.1

(a) At end of period.

(b) During period.

(c) Valued at \$10,000 and over.

Construction (other than building)

These statistics relate to work by private contractors on construction (other than building) prime contracts valued at \$100,000 or more, inclusive of all associated sub-contract work performed for the prime contractor. Alterations and additions undertaken as prime contracts valued at \$100,000 or more are included in the statistics. Repairs and maintenance contracts, construction undertaken by government authorities involving their own work forces, and construction on their own account by enterprises in the private sector, are excluded.

The following table shows the value of construction (other than building) activity undertaken as prime contracts commenced, completed, under construction, work done and work yet to be done in Australia for the year of 1978-79.

**VALUE OF CONSTRUCTION (OTHER THAN BUILDING) PRIME CONTRACTS BY OWNERSHIP,
1978-79
(\$ million)**

	<i>Commenced</i>	<i>Completed</i>	<i>Under construc- tion(a)</i>	<i>Work done(b)</i>	<i>Work yet to be done(a)</i>
PRIVATE					
Roadwork	58.8	65.3	41.3	63.6	17.5
Water supply, storage, sewerage and drainage	20.1	30.9	12.7	20.9	4.8
Electricity, oil and gas production and distribution facilities	24.7	39.6	43.2	51.6	9.6
Marine work	58.8	4.3	66.0	31.1	38.8
Heavy industrial facilities	193.1	336.7	281.1	313.7	128.1
Other(c)	79.5	66.8	83.2	75.0	38.4
<i>Total</i>	<i>434.8</i>	<i>543.7</i>	<i>527.6</i>	<i>555.9</i>	<i>237.3</i>
GOVERNMENT					
Roadwork	110.5	132.1	124.2	116.8	52.5
Water supply, storage, sewerage and drainage	151.3	354.6	279.8	230.9	106.0
Electricity, oil and gas production and distribution facilities	660.4	214.3	1,588.7	485.6	746.9
Marine work	29.2	53.3	198.7	89.3	89.8
Heavy industrial facilities	82.0	12.3	93.5	19.2	76.8
Other(c)	129.8	356.7	212.6	172.7	108.4
<i>Total</i>	<i>1,163.3</i>	<i>1,123.2</i>	<i>2,497.5</i>	<i>1,114.5</i>	<i>1,180.4</i>
TOTAL					
Roadwork	169.3	197.3	165.5	180.4	69.9
Water supply, storage, sewerage and drainage	171.4	385.6	292.5	251.8	110.8
Electricity, oil and gas production and distribution facilities	685.1	253.9	1,631.9	537.1	756.6
Marine work	88.0	57.6	264.8	120.5	128.6
Heavy industrial facilities	275.1	349.0	374.6	333.0	204.9
Other(c)	209.3	423.5	295.8	247.8	146.8
<i>Total</i>	<i>1,598.1</i>	<i>1,666.9</i>	<i>3,025.1</i>	<i>1,670.5</i>	<i>1,417.7</i>

(a) At end of period. (b) During period. (c) Comprises bridges, aerodromes, railways, telecommunications and miscellaneous.

More detailed information on building activity is contained in *Building Statistics, Australia* (quarterly) (8705.0). Current information is obtainable also in the *Monthly Summary of Statistics, Australia* (1304.0), the *Digest of Current Economic Statistics, Australia* (monthly) (1305.0), the *Building Statistics, Australia: Number of Dwellings, Preliminary Estimates* (quarterly) (8703.0), *Building Operations, Australia* (quarterly) (8704.0), *Building Approvals, Australia* (monthly) (8702.0) and *Construction (other than building) Operations, Australia* (quarterly) (8708.0). Details for particular States are available from publications issued regularly by the Deputy Commonwealth Statistician in each State. The *Building Industry Quarterly* published by the Department of Housing and Construction contains further information on current trends in housing activity.

The annual reports of the Commonwealth and State Government Housing Authorities show further details of government activities in the field of housing.

CHAPTER 20

TRANSPORT AND COMMUNICATION

This chapter contains information on shipping; railways; tram, bus and ferry services; motor vehicles; road traffic accidents; roads; air transport; postal services; internal and overseas telecommunication services; radio communication stations; broadcasting and television; and government bodies concerned with these activities.

More detailed figures and particulars for earlier years are included in the publications listed at the end of the chapter.

TRANSPORT ORGANISATIONS

The Australian Transport Advisory Council

In April 1946, the State and Commonwealth Governments agreed to establish a co-ordinating and advisory committee at Ministerial level to review annually the various laws and regulations deemed necessary to safeguard the interests of the State Governments and road users generally and to consider matters of transport policy.

The Australian Transport Advisory Council (ATAC), thus established, is comprised of the Commonwealth Minister for Transport and the Minister for the Capital Territory, each State Minister responsible for transport and roads, and the Northern Territory Minister for Transport and Works. The New Zealand Minister responsible for transport attends as an observer.

The Council primarily considers policy matters relating to transport operations, co-ordination and developments. Its functions are: to initiate discussion and report to the respective Governments as necessary on any matter raised by the Council or any State or Commonwealth Government Authority; generally to exercise its purely advisory functions and to report as necessary to the respective Governments concerned on any matter which will tend to promote a better co-ordination of transport development, while at the same time encouraging modernisation and innovation to meet changing needs; and to assist in maintaining continuous and comprehensive research in relation to transport development in Australia and abroad, such research to be carried out for the benefit of Australian Transport authorities and agencies.

The regulation of and the executive responsibility for transport is shared between the Commonwealth and State Governments. The ATAC is the meeting ground at a ministerial level and provides an effective means of inviting discussion and reaching uniformity of approach towards transport administrative procedures and policy. It also provides a means for reviewing and discussing national solutions of transport problems and the rectification of transport deficiencies generally. The Council has been active in: the establishment of special committees and conferences to examine and report on specific problems such as road safety, motor vehicle standards and safety features, motor vehicle emissions, transport economic research, driver licensing improvement, and highway planning; the exchange of views and the formulation of common policies on a wide range of transport matters; the effecting, at ministerial level, of Commonwealth/State and interstate co-operation on such matters as urban transport arrangements and funding, provision of funds for roads, construction and operation of interstate railway links, collecting of fines and fees interstate, policing of regulations, etc., and the publication of comprehensive surveys of Australian transport.

The Council is advised by the following four policy groups: *Co-ordinating and General Transport Group*, comprising principal Ministerial advisers, such as the Permanent Heads of the relevant Departments, deals with overall issues of policy co-ordination and development as well as topics which do not fall within the terms of reference of the other groups. *Railway Group*, comprising State and Australian National Railway Commissioners, together with Commonwealth Government representatives, advises on all railway matters considered by the Council. *Road Group*, comprising State Road Commissioners together with Commonwealth Government officials, advises the Council on matters concerned with the construction and maintenance of all classes of roads and their financing. The *Motor Transport Group*, consisting of the principal State officials in the motor vehicle safety and regulatory areas, together with Commonwealth Government representatives, advises the Council on

all matters arising from the work of the technical advisory committees and on vehicle safety standards, technical standards and on-road operation. The Group is advised by the following technical committees:

The Advisory Committee on Vehicle Performance; The Advisory Committee on Road User Performance and Traffic Codes; The Committee on Motor Vehicle Emissions; The Advisory Committee on Safety in Vehicle Design; The Publicity Advisory Committee on Education in Road Safety; and Ad-hoc advisory committees. In addition to these technical committees, the Energy Working Group and the Advisory Committee on the Transport of Dangerous Goods report to the Co-ordinating and General Transport Group.

In July 1969 ATAC established the Australian Motor Vehicle Certification Board to advise State and Territory registering authorities on compliance by new motor vehicles with Australian Design Rules (ADR's). The Board's principle function is to issue Compliance Plate Approvals, based on manufacturers' submissions, that a vehicle complies with those Rules applicable at its date of manufacture. Compliance with ADR's is a prerequisite to vehicle registration throughout Australia.

Transport Industries Advisory Council

The Transport Industries Advisory Council (TIAC) was formed following the March 1971 Australian Transportation Conference. The TIAC, an access channel between industry and the Commonwealth Minister for Transport, provides advice and comment to the Minister on policy issues as well as recommendations related to improving transport systems in Australia.

The 36 members of TIAC are drawn from senior management in all modes of transport, major consumers, Government bodies and unions. The Minister appoints members on the basis of personal expertise. New members, appointed annually, serve on the Council for extendable terms of three years. The full Council which meets four times a year, operates through three Working Committees. The Council is represented at pre-budget economic consultative meetings with the Prime Minister and Cabinet Ministers.

The Council was largely responsible for initiating the Transport Activity Indicator Project which provides quarterly statistical information on transport in Australia. Examples of topics currently under consideration by TIAC include the Australian rail systems; a uniform code for the safe transport of dangerous goods; future fuel and energy availability; container handling; identification of real transport costs; need for a national transport strategy.

The TIAC has a small Secretariat located in the Commonwealth Department of Transport.

Marine and Ports Council of Australia

The Marine and Ports Council of Australia (MPCA) provides an advisory forum for Commonwealth and State Governments in which to discuss initiatives and developments in marine and port matters. Membership comprises the Commonwealth Minister for Transport (Chairman) and State and Territory Ministers whose portfolios include responsibility for ports and maritime services.

Evolving from six meetings of a Commonwealth/State Ministerial Council for Port Development and Marine Affairs, the MPCA was convened for the first time in May 1976, bringing together Commonwealth and State policy-making machinery in relation to ports, the administration of shipping matters, cargo movements, shipping and marine laws, marine pollution control, safety and consultation on treaties. The Council now meets bi-annually.

To assist the Council in its deliberations there exists a Committee of Advisers comprising Commonwealth, State and Territory ministerial advisers, generally at permanent head level or equivalent, who are responsible for marine and ports matters. This Committee makes recommendations to Ministers on matters referred to them by Ministers or from within the Committee.

Aviation Industry Advisory Council

The Aviation Industry Advisory Council (AVIAC) was established in 1978 to enhance the level of consultation between the aviation industry and the Government. The Council provides advice to the Commonwealth Minister for Transport on policies, plans and programs relating to the aviation industry within Australia, promotes the continuing development of a safe, efficient, economic aviation industry within Australia, and provides a forum for discussion of important matters of joint concern to the aviation industry and Government.

Membership of the Council consists of the Commonwealth Minister for Transport (Chairman); Secretary to the Department of Transport; Chairman of Qantas Airways Ltd, Australian National Airlines Commission (TAA), East-West Airlines; Joint Managing Directors of Ansett Transport Industries Ltd; National President of the General Aviation Association; and presidents of the Aircraft Owners and Pilots Association of Australia and the Royal Federation of Aero Clubs of Australia.

The AVIAC has established a Committee of Advisers to assist in the analysis and preparation of matters to put to the Council for deliberation and decision.

The Bureau of Transport Economics

This Bureau, which from June 1977 incorporated the functions of the former Commonwealth Bureau of Roads, undertakes research and analysis to assist the Commonwealth Government in the assessment, formulation and development of policy aimed at the efficient allocation of resources in the transport field. This work covers all transport activities and includes the analysis of funding for road investment as well as matters relating to the reduction of transport costs and the rational planning of future transport facilities. For administrative purposes the Bureau is attached to the Department of Transport, but it is responsible to the Minister for Transport for the conduct of its studies and investigations.

SHIPPING

Control of shipping

Commonwealth Government navigation and shipping legislation

Commonwealth Government Acts concerned with shipping are: the *Navigation Act* 1912, the *Sea-Carriage of Goods Act* 1924, the *Seamen's Compensation Act* 1911, the *Seamen's War Pensions and Allowances Act* 1940, the *Pollution of the Sea by Oil Act* 1960, the *Pollution (Shipping Levy) Act* 1972, the *Pollution (Shipping Levy Collection) Act* 1972, the *Australian Shipping Commission Act* 1956, the *Stevedoring Industry Act* 1956, the *Beaches, Fishing Grounds and Sea Routes Protection Act* 1932, the *Submarine Cables and Pipelines Protection Act* 1963, the *Lighthouses Act* 1911, the *Explosives Act* 1961, the *Inter-State Commission Act* 1975, the *King Island Harbour Agreement Act* 1973, the *King Island Shipping Service Agreement Act* 1974, the *Ship Construction Bounty Act* 1975, the *Trade Practices Act*, 1974, Part X.

Navigation Act 1912 as Amended

One of the largest Commonwealth Acts, the Navigation Act, with forty-three sets of Regulations made under it, provides for various regulatory controls over ships and their crews, passengers and cargoes, mainly in connection with the ensuring of the safety of the ship and the preservation of life at sea. Substantial penalties are provided for serious offences. In particular, it gives effect to the important international conventions produced under the aegis of the Inter-Governmental Maritime Consultative Organization (IMCO) dealing with safety of life at sea, ships' load lines and prevention of collisions.

Taken in the order in which they appear in the Act, the main substantive matters dealt with are as follows:

Masters and seamen. Some sections deal with the examination of masters, mates and engineers for certificates of competency. Other sections ensure that appropriate conditions apply to crews serving on ships by providing for the supervision of the engagement, discharge and payment of wages; discipline at sea; the settlement of wages and other disputes; the return to their home port of distressed seamen; taking charge of wages and effects of deceased seamen and of those who have deserted or been left behind; and enquiries into deaths at sea. These matters are administered by Mercantile Marine Offices established at numerous ports. The health of seamen is cared for by the prescription of scales of medicines and medical stores to be carried by ships, and there are provisions to give effect to International Labour Organisation Convention requirements for the accommodation of crews. Plans for new or altered accommodation in ships have to be approved by a Crew Accommodation Committee.

There are requirements for the manning of ships, designed to ensure that sufficient officers and men are carried for safety and operational purposes. Manning disputes are dealt with by statutory Committees of Advice. The Act provides for a Marine Council to advise the Minister on the suitability of persons for engagement as seamen.

Ships and shipping. There are particularly important provisions dealing with ship safety in such matters as survey of ships, load lines, life-saving and fire appliances, prevention of collisions, and carriage of potentially dangerous cargoes. Whilst in Australia, all ships come under the survey provisions of the Navigation Act and require certificates issued by the Department of Transport unless they are registered in a country which is a party to the Convention concerned and hold valid certificates issued by their Governments and conforming to the requirements of the Safety of Life at Sea and Load Lines Conventions. There is power to detain any ship the condition of which does not conform with the conditions set out in its certificate or which appears to be overloaded or otherwise unseaworthy.

Passengers. These provisions deal with matters necessary or convenient for regulating the carriage of passengers in respect of such matters as numbers that may be carried, accommodation and health aspects.

Coasting trade. Under the coastal trade provisions of the Navigation Act, the Australian coastal trade is reserved for licensed vessels, i.e. those which comply with Australian standards of manning, accommodation, and award conditions and wages. The Act does not restrict the class of ships which may obtain a licence. It is open to any vessel irrespective of the registry to obtain a licence on compliance with these conditions and to operate in the Australian coastal trade subject to approval being given for the importation of the vessel where necessary. Provision exists for unlicensed vessels to operate in the coast trade under single voyage permits in certain circumstances where licensed vessels are not available or are inadequate to meet the needs of the trade. Strict control is exercised over the issue of permits for the carriage of coastal cargoes.

Wrecks and salvage. There are provisions in relation to wrecks and salvage, covering preservation of life and of the wreck and its cargo and related matters.

Prevention, etc., of pollution by oil of the Australian coast, coastal waters and reefs. Under these provisions, where oil is escaping, or likely to escape, from a ship, the Minister is empowered to take action to prevent or reduce pollution of the area.

Courts of Marine Inquiry. There are provisions for the holding of Courts of Marine Inquiry to investigate the circumstances attending any casualties to ships that come within Commonwealth legislative authority, usually following a preliminary investigation. Such courts are provided with power to examine all the circumstances and to deal with the certificates of ships' officers found to have been at fault.

The last two amending Navigation Acts are not yet fully in force. The *Navigation Amendment Act* 1979 (No. 98 of 1979) received Royal Assent on 22 October 1979 and the *Navigation Amendment Act* 1980 (No. 87 of 1980) received Royal Assent on 29 May 1980. The two Acts deal with a wide range of matters and only amendments of a general or more formal nature are already in force. Important groups of sections of the Acts will be brought into operation at appropriate dates in the future: Regulations and Orders must first be made, Instruments of ratification of certain international conventions deposited and new procedures, etc. introduced.

Australian Shipping Commission

The Commission was established by the *Australian Coastal Shipping Commission Act* 1956. The Commission's role has been to establish, maintain and operate interstate, overseas and territorial shipping services. The Commission's title was changed in October 1974 to the Australian Shipping Commission to reflect the increasing importance of its overseas trading activities. In 1980 the Australian Shipping Commission Act was amended to increase its borrowing powers and give it greater flexibility in having freight rates set.

As at 30 June 1980 the Commission, operating as the Australian National Line, owned and/or operated a fleet of thirty-two vessels. The fleet included 13 vessels engaged in overseas trades comprising five vehicle deck cargo ships totalling 104,712 tonnes deadweight; three cellular container ships totalling 95,951 tonnes deadweight; four ore-bulk carriers totalling 524,187 tonnes deadweight; and one hybrid container vessel of 16,477 tonnes deadweight.

The fleet also included nineteen vessels engaged in coastal trades comprising one vehicle deck passenger ship, the *Empress of Australia* of 2,736 tonnes deadweight; seven vehicle deck cargo ships totalling 48,410 tonnes deadweight; one container bulkship of 12,140 tonnes deadweight in the Darwin trade; two bulk carriers in the over 100,000 tonnes deadweight class; two bulk carriers in the 50-100,000 tonnes deadweight class; six other bulk carriers each less than 50,000 tonnes deadweight totalling 120,898 tonnes deadweight.

The Line operated specialised terminals at Adelaide, Melbourne, Burnie, Devonport, Bell Bay, Sydney, Port Kembla, Brisbane, Mackay, Townsville, Cairns and Darwin.

The *Empress of Australia* carried 111,276 passengers between Melbourne and Devonport together with 29,580 vehicles during the year ending 30 June 1980.

Australian Shipbuilding Board

The Australian Shipbuilding Board has six members including representatives from each of the Departments of Defence (Navy Office), Transport and Industry and Commerce and the trade union movement and provides advice to the Minister for Industry and Commerce on matters relating to the shipbuilding industry. The Board advises the Minister on such matters as bounty prices and registration of shipyards within the terms of the Ship Construction Bounty Act, subsidy assistance under the provisions of the Australian Shipping Commission Act and other matters referred to the Board by the Minister.

Shipbuilding Assistance

The shipbuilding industry in Australia has been assisted by the Government since the introduction of the shipbuilding subsidy scheme in 1947. The level of subsidy has been determined by the

Government on the basis of inquiries into the industry by the former Tariff Board and, more recently, by the Industries Assistance Commission. These inquiries have been held in 1954, 1959, 1963, 1971, 1976 and 1977-79.

In May 1977, the Government sent a reference to the Commission on assistance to be accorded to the production of vessels under 6,000 tg. The Commission reported to the Government on 25 July 1979 and on 29 November 1979 the Government announced new, simplified assistance arrangements for the Australian shipbuilding industry, with the introduction of the new Bounty (Ships) Act on 1 July 1980.

Under the *Ship Construction Bounty Act* 1975, which applies to vessels for which public tenders closed on or before 30 June 1980, bounty is calculated on the basis of the lowest acceptable tender. At 30 June 1980, there were 74 vessels being constructed under this Act at registered yards. The Act will run its course until the last of these vessels is completed, by about the end of 1981.

Registration of yards was required under the Act. At 30 June 1980 there were 46 registered yards, although only 22 of these were actually building vessels. Vessels built at registered yards include small cargo vessels, offshore supply vessels, passenger ferries, fishing vessels, dredgers, and barges. In addition, there are numerous smaller yards building non-bountiable vessels such as pleasure craft, small fishing vessels, and other small craft.

Under the *Bounty (Ships) Act* 1980, bounty will continue to be accorded to the production in Australia of vessels over 150 gross construction tons, or over 21 metres in the case of fishing vessels. Under this Act, which came into operation on 1 July 1980, bounty is paid on a "cost of construction" basis. The maximum rate of bounty is 29½ per cent, phasing down to a long-term rate of 20 per cent to apply from 1 July 1986. A registration system still applies for administrative purposes.

In 1979-80 a total of 37 bountiable vessels were completed at Australian yards (as compared with 47 in 1978-79 and 23 in 1977-78). Construction of large ships in Australia ceased in 1978 and the increased activity in 1978-79 was partly due to more intensive construction of smaller vessels; and partly due to the effects of the Government's investment allowance. The allowance had been increased from 20 per cent to 40 per cent from 1 January 1976 and reverted to 20 per cent from 1 July 1978.

Bounty and subsidy payments in 1979-80 amounted to \$13.4m, reversing the downward trend in such payments over the previous four years (\$10.8m in 1978-79, \$13.6m in 1977-78, \$28.1m in 1976-77, and \$43.7m in 1975-76). The contraction and final cessation of large shipbuilding in Australia, together with a reducing rate of bounty assistance, accounted for the downward trend. The increase in 1979-80 reflects increased activity in the Australian shipbuilding industry.

Importation of Ships

The control of imports forms an integral part of the Government's shipbuilding assistance arrangements, complementing the bounty legislation. Under the Customs (Prohibited Imports) Regulations all ships are 'prohibited imports' and may not be imported into Australia except with the written permission of the Minister for Transport.

Stevedoring Industry

In December 1977, legislation was introduced which provided for new administrative, financial and industrial arrangements for the stevedoring industry and abolished the Australian Stevedoring Industry Authority. The arrangements give the parties directly involved in the industry greater responsibility in the industry's affairs.

The Stevedoring Industry Finance Committee is responsible for the disbursement of funds collected through statutory man-hour and cargo levies.

A federal co-ordinating committee comprising representatives of the employers and the Waterside Workers' Federation (WWF) and Broken Hill Pty Ltd (BHP) and the Australian National Line oversees the operation of arrangements agreed to in the General Agreement between employers and the WWF. At the port level such matters are handled by Port Co-ordinating Committees set up in the major ports.

Under section 85A of the *Conciliation and Arbitration Act* 1904 a Port Conciliator Service was created to assist parties to an industry award to implement the procedures of that award for the prevention or settling of disputes.

A non-statutory Stevedoring Industry Consultative Council chaired by Sir Alan Westerman, CBE, has been established to provide a forum for discussion and liaison between government(s), user interests and the operating sections of the industry. The Chairman is appointed for a three year period by the Commonwealth Government.

The Statutory provisions relating to the industry are contained in the *Stevedoring Industry Finance Committee Act 1977*, the *Stevedoring Industry Levy Act 1977*, the *Stevedoring Industry Levy Collection Act 1977*, the *Port Statistics Act 1977* and sections 85A, 86, 87 of the *Conciliation and Arbitration Act 1904*.

Tasmanian Freight Equalisation Scheme

The Commission of Inquiry into Transport to and from Tasmania in its Report published in March 1976 found that because of Tasmania's physical separation from the mainland by sea, Tasmanian shippers suffer a cost disability in moving non-bulk cargoes by sea between Tasmania and the mainland.

Following on from the Report, the Commonwealth Government introduced, with effect from 1 July 1976, the Tasmanian Freight Equalisation Scheme. The Scheme is designed to equalise door-to-door freight costs of moving certain eligible commodities between Tasmania and the mainland by sea with those for moving similar commodities over comparable interstate mainland rail and road routes.

The northbound component applies to Tasmanian consignors of specified goods by sea that are bought for use or exported for sale on the mainland. Under the southbound component certain producer raw materials, machinery and equipment are eligible for assistance. The northbound component was introduced in July 1976 and the southbound component in July 1977. Assistance under the latter applied to shipments made from 1 July 1976.

In 1979-80 assistance provided under the Scheme for northbound cargoes totalled \$25.7 million, and \$1.9 million in respect of southbound cargoes. Since its inception assistance provided under the Scheme up to the end of 1979-80 totalled \$89.6 million.

Responsibility for the administration of the Scheme lies within the Transport portfolio.

Revised rates of assistance for northbound cargoes were introduced on 1 July 1978 and revised southbound rates on 1 March 1980 following reviews of freight costs by the Bureau of Transport Economics. The Scheme is currently being reviewed to ensure it continues to meet the Government's objectives.

Trade Practices Act 1974 (Part X—Overseas Cargo Shipping)

The Overseas Cargo Shipping provisions of the Trade Practices Act (Part X) are administered by the Transport portfolio.

Part X establishes conditions for the operation of outwards shipping conferences and individual shipowners operating in Australia's outwards trades. Conference agreements between several shipowners in a particular trade make provision for the fixing of common freight rates. They may also include provisions for pooling arrangements and shares of the trade and rationalised sailing schedules. With suitable safeguards, these arrangements can have beneficial effects for shippers in that conference arrangements can lead to regular and predictable services at stable freight rates.

Part X, therefore, exempts conferences from the generally applicable anti-restrictive provisions of the Act, and seeks to ensure adequate safeguards to protect shippers through:

- requiring the filing of outwards conference agreements;
- requiring shipowners to give undertakings to hold meaningful negotiations with the designated shipper body, the Australian Shippers' Council (ASC);
- providing for disapproval of a conference agreement to be exercised by the Governor-General on a number of prescribed grounds, such as a failure on the part of the shipowner to comply with an undertaking, lack of due regard to the need for overseas shipping services to be efficient, economical and adequate, prevention or hindrance of an Australian flag operator from engaging efficiently in overseas cargo shipping to a reasonable extent.

Comparable provisions apply to individual shipowners who are not party to a conference agreement.

Amendment to Australia's Overseas Cargo Shipping Legislation

In April 1980 the Minister for Transport introduced into Parliament a Bill to amend Part X of the Trade Practices Act. The purpose of the Bill is to provide more effective safeguards for Australian shippers in the negotiation of the terms and conditions of outwards liner shipping. Representations have been received from industry on the Bill and the matter is now under further examination.

Maritime Industry Commission of Inquiry

For details see Year Book No. 61, pages 370-1.

Collection and presentation of statistics

Basic documents

From 1 July 1966 shipping statistics have been compiled by the Australian Bureau of Statistics from returns submitted by shipping companies or their representatives to Customs Houses at the various seaports throughout Australia. A return is required for the departure of a vessel from a port as well as for its arrival at that port.

Scope of the statistics

Arrivals and departures of vessels are treated separately in shipping statistics. Not all vessels are included in the statistics, as returns are not required for (i) naval vessels; (ii) yachts and other craft used for pleasure; (iii) foreign fishing vessels that neither load nor discharge cargo; (iv) Australian registered fishing vessels operating from Australian ports; (v) geographical survey vessels, seismic survey vessels, oceanographic survey vessels; (vi) offshore oil drilling rigs and vessels servicing them; (vii) vessels of 200 registered net tons and under.

Period covered by the statistics

Monthly shipping statistics relate to vessels arriving at and departing from each port in a calendar month. Annual statistics are published on a financial year basis.

Statistics of vessels

Statistics of vessels are compiled in terms of registered net tonnages. Net tonnage is expressed in units of 100 cubic feet (i.e. 100 cu ft equals 1 ton) and represents the volume of enclosed space which can be utilised for cargo or passengers.

Statistics of vessel movements

Returns show the last or next port of call of a vessel according to whether an arrival or departure at a port is being reported. Each vessel is classified to either the overseas or the coastal fleets serving Australia. This information, supplemented by the voyage of the vessel indicated by ports it visits to load or discharge cargo, is the basis on which each vessel movement is allocated to one of the following classifications: overseas direct; overseas via other States; or overseas via ports in the same State.

Cargo loaded or discharged

Returns for arrivals show cargo discharged, and for departures cargo loaded, in terms of tonnes or cubic metres, depending on the basis on which freight is charged.

Type of service

Overseas shipping cargo statistics are classified by type of service.

For overseas shipping, cargo shipped in liners is shown separately from cargo shipped in tramps, bulkships and tankers. A liner is a vessel which, on the voyage on which cargo is loaded or discharged at an Australian port, is operated to provide services on a specified route on a relatively regular basis.

Statistics of cargo shipped in liner services do not necessarily provide a measure of cargo carried by ships operating under shipping conference arrangements. For example, liner services may be provided by shipping companies which are not parties to conference agreements. Cargo may also be shipped under shipping conference conditions in vessels operating on a voyage charter basis for specific cargo and, in the statistics, such cargo is classified as cargo shipped in tramp vessels.

Country of loading or discharge of overseas cargo

In statistics of overseas shipping cargo, country of loading or discharge of cargo is the country of location of the port where the cargo was loaded on to, or is to be discharged from, a reporting vessel. The countries shown are not necessarily the countries of origin or ultimate destination of cargo because previous or subsequent transshipments of cargo are not taken into account. The statistics of cargo classified by the country in which it was loaded or discharged cannot therefore be compared directly with statistics of overseas trade classified by country of origin or consignment.

Transshipments of cargo within Australia

The State of loading or discharge shown in the statistics is the State in which cargo is loaded onto or discharged from, reporting vessels. Cargo loaded in a given State can therefore include cargo previously shipped interstate, while cargo discharged can include cargo which would subsequently be shipped interstate.

Units of measurement

Deadweight tonnage. A measure of the total mass (weight) of cargo, fuel, potable water, boiler feed water, ballast, stores, crew and their gear, etc. It is equal to loaded displacement tonnage less light displacement tonnage.

Gross tonnage. A measure of the enclosed internal volume of a ship and its superstructure, with certain spaces exempted. It is also an indicator of the total volumetric size of a ship.

Net tonnage. A volumetric measure consisting of the gross tonnage less the volume of non-earning spaces, e.g. master's cabin, crew accommodation, wheelhouse, galley, etc., and an allowance for machinery spaces. Volumetric measurement of ships has not yet been converted to metric.

Overseas shipping

The following table shows the number of vessels entered and cleared direct from and to overseas countries, and the aggregate net tonnage involved, for the years 1973-74 to 1978-79.

OVERSEAS SHIPPING(a): VESSELS ENTERED AND CLEARED

		1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Entered	number	5,975	6,230	5,772	5,830	5,615	5,677
	'000 net tons	72,042	80,313	75,002	79,666	80,154	82,755
Cleared	number	5,909	6,254	5,824	5,824	5,668	5,655
	'000 net tons	71,462	80,305	75,399	79,503	80,443	82,509

(a) Excludes vessels of 200 net tons and under.

Particulars of the total overseas movement of shipping for each year from 1950-51 are shown in the Statistical Summary of this Year Book.

The following table shows, for each State and the Northern Territory, the number of vessels entered and cleared direct from and to overseas countries, and the aggregate net tonnage involved.

OVERSEAS SHIPPING(a): VESSELS ENTERED AND CLEARED, STATES, 1978-79

		N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Aust.
Entered	number	1,302	545	1,121	275	2,040	168	226	5,677
	'000 net tons	16,564	5,546	14,328	2,709	38,537	2,764	2,308	82,755
Cleared	number	1,046	447	1,306	387	2,104	157	208	5,655
	'000 net tons	14,120	4,417	16,803	3,236	39,029	2,668	2,236	82,509

(a) Excludes vessels of 200 net tons and under.

The following table shows particulars of overseas shipping which entered Australian ports according to country of registration of vessels.

OVERSEAS SHIPPING: VESSELS ENTERED DIRECT, BY COUNTRY OF REGISTRATION, AUSTRALIA(a)

('000 net tons)

Country of registration of vessels	1976-77	1977-78	1978-79	Country of registration of vessels	1976-77	1977-78	1978-79
Australia	1,514	2,086	2,476	Panama	4,138	4,234	5,303
China—excl. Taiwan Province	870	2,444	3,411	Singapore, Republic of	1,282	1,605	1,791
—Taiwan Province only	695	974	1,195	Sweden	875	838	402
Denmark	725	671	721	United Kingdom	8,823	7,401	7,217
Germany, Federal Republic of	1,836	1,584	1,152	United States of America	620	650	764
Greece	4,186	3,798	3,604	U.S.S.R.	1,114	816	865
Hong Kong	984	1,100	1,224	Other countries	4,039	4,601	5,885
India	2,285	995	825	All countries -			
Italy	629	341	536	In cargo	19,118	18,366	19,669
Japan	26,049	26,476	25,213	Proportion of total %	24.0	22.9	23.8
Liberia	13,795	14,428	15,991	In ballast	60,548	61,788	63,086
Netherlands	540	494	399	Proportion of total %	76.0	77.1	76.2
Norway	4,667	4,618	3,780	Grand Total	79,666	80,154	82,755

(a) Excludes vessels of 200 net tons and under.

Australian registered tonnage which entered Australian ports from overseas during the year 1978-79 represented 2.99 per cent of the total tonnage entered.

Overseas via States. The figures in the following table show the number and aggregate net tonnage of overseas vessels entered and cleared which, having arrived at an Australian port direct from an overseas port, continued their voyages from/to overseas countries via other Australian States.

**INTERSTATE MOVEMENT: OVERSEAS VESSELS ENTERED AND CLEARED VIA OTHER
AUSTRALIAN STATES, 1978-79(a)**

		<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>Aust.</i>
Entered	number	925	896	604	458	343	211	33	3,470
	'000 net tons	7,025	7,286	5,488	3,033	2,815	1,530	346	27,523
Cleared	number	1,202	1,013	406	349	211	226	46	3,453
	'000 net tons	9,583	8,336	2,916	2,482	1,929	1,598	356	27,201

(a) Excludes vessels of 200 net tons and under.

Australian trading vessels

The following table shows particulars of all Australian trading vessels of 150 gross tons or more engaged in the regular overseas, interstate or intrastate services at 30 June 1980.

**AUSTRALIAN TRADING VESSELS OF 150 GROSS TONS OR MORE
30 JUNE 1980**

(Source: Department of Transport)

<i>Vessels</i>	<i>Number</i>	<i>DWT</i>	<i>Gross</i>
Interstate—			
Australian owned, Australian registered	46	1,013,774	665,267
Australian owned, overseas registered	1	2,540	2,577
Overseas owned, Australian registered	5	102,063	67,823
Overseas owned, overseas registered	9	608,440	328,282
<i>Interstate fleet</i>	<i>61</i>	<i>1,726,817</i>	<i>1,063,949</i>
Intrastate—			
Australian owned, Australian registered	22	265,799	164,183
Overseas owned, Australian registered	1	58,077	36,088
<i>Intrastate fleet</i>	<i>23</i>	<i>323,876</i>	<i>200,271</i>
Coastal fleet	84	2,050,693	1,264,220
Overseas—			
Australian owned, Australian registered	12	397,377	288,223
Overseas owned, Australian registered	3	401,587	213,950
Overseas owned, overseas registered	5	143,031	89,986
	<i>20</i>	<i>941,995</i>	<i>592,159</i>
Total Australian fleet	104	2,992,688	1,856,379

Harbour boards and trusts

For detailed information see the individual State Year Books.

Shipping at principal ports

The following table shows the total volume of shipping—overseas and coastal—entering the principal ports of Australia.

TOTAL SHIPPING: VESSELS ENTERED AT PRINCIPAL PORTS(a)

Port of entry	1976-77		1977-78		1978-79	
	Num- ber	Net tons	Num- ber	Net tons	Num- ber	Net tons
		'000		'000		'000
New South Wales—						
Sydney	2,249	16,125	1,717	14,768	1,553	13,184
Botany Bay	279	3,891	91	1,240	91	1,149
Newcastle	869	8,512	605	7,149	566	7,393
Port Kembla	693	7,151	331	5,028	250	3,494
Victoria —						
Melbourne	2,517	13,410	1,082	7,758	1,137	9,077
Geelong	337	2,741	259	2,227	218	2,004
Westernport	435	5,437	98	1,172	112	1,751
Queensland—						
Brisbane	1,229	8,720	839	5,740	866	6,705
Bundaberg	97	658	49	336	28	156
Cairns	147	767	90	511	69	383
Gladstone	404	6,675	235	3,918	262	4,178
Hay Point	162	5,292	182	6,020	167	5,323
Mackay	252	1,144	133	736	84	501
Rockhampton	67	244	25	57	48	97
Townsville	353	2,122	258	1,587	283	1,724
Weipa	240	4,576	119	2,072	111	1,825
South Australia—						
Adelaide	942	3,628	532	3,067	520	3,406
Port Lincoln	118	525	56	422	66	601
Port Pirie	133	831	96	585	108	644
Port Stanvac	96	1,639	49	1,106	41	1,040
Thevenard	63	278	16	96	37	207
Whyalla	204	1,558	70	617	35	313
Western Australia—						
Fremantle(b)	1,313	11,007	1,128	9,662	1,032	9,263
Albany	126	779	104	731	89	588
Bunbury	171	1,637	165	1,740	147	1,631
Geraldton	141	975	122	1,014	126	1,060
Yampi Sound	102	954	65	841	50	845
Port Hedland	478	12,146	422	12,190	458	11,920
Dampier	492	13,218	435	10,528	478	12,250
Port Walcott	143	5,053	116	4,249	119	4,581
Tasmania—						
Hobart	383	1,333	187	803	146	1,055
Burnie	366	1,688	78	716	93	861
Devonport	405	1,312	21	72	12	52
Launceston	421	2,651	128	1,412	106	1,601
Port Latta	38	734	27	595	29	613
Northern Territory—						
Darwin	135	623	85	408	106	510
Groote Eylandt	96	731	55	535	64	594
Gove	106	1,608	96	1,800	92	1,582

(a) Excludes vessels of 200 net tons and under. (b) Includes Kwinana.

Shipping cargo

The following table shows details of container and non-container cargo discharged and loaded at Australian ports during 1978-79.

**OVERSEAS CONTAINER AND NON-CONTAINER CARGO DISCHARGED AND LOADED BY PORT,
1978-79
(^{'000})**

Port	Discharged				Loaded			
	Container		Non-container		Container		Non-container	
	Tonnes	Cubic metres	Tonnes	Cubic metres	Tonnes	Cubic metres	Tonnes	Cubic metres
New South Wales—								
Sydney	989	1,833	1,639	1,152	1,140	527	3,884	72
Botany Bay	—	—	1,806	1	—	—	189	—
Newcastle	23	10	1,095	3	34	—	12,723	3
Port Kembla	—	—	651	—	21	—	6,389	—
Other	—	—	1	2	—	—	388	—
<i>Total New South Wales</i>	<i>1,012</i>	<i>1,844</i>	<i>5,192</i>	<i>1,159</i>	<i>1,194</i>	<i>527</i>	<i>23,573</i>	<i>75</i>
Victoria—								
Melbourne	440	1,507	703	706	1,016	429	445	77
Geelong	1	24	1,428	2	9	38	1,795	27
Portland	—	—	247	—	—	—	532	8
Westernport	—	—	153	—	—	—	2,170	—
<i>Total Victoria</i>	<i>441</i>	<i>1,530</i>	<i>2,531</i>	<i>708</i>	<i>1,025</i>	<i>466</i>	<i>4,942</i>	<i>112</i>
Queensland—								
Brisbane	84	278	704	351	476	81	1,631	16
Cairns	—	—	33	—	—	—	472	—
Gladstone	—	—	669	47	—	—	8,948	—
Hay Point	—	—	—	—	—	—	12,344	—
Mackay	—	—	73	1	—	—	406	—
Townsville	2	—	533	31	28	—	1,034	1
Weipa	—	—	136	1	—	—	4,397	—
Other	—	—	24	—	—	—	1,051	1
<i>Total Queensland</i>	<i>86</i>	<i>279</i>	<i>2,172</i>	<i>431</i>	<i>505</i>	<i>81</i>	<i>30,281</i>	<i>18</i>
South Australia—								
Port Adelaide	12	59	401	307	49	35	759	417
Ardrossan	—	—	—	—	—	—	113	—
Port Lincoln	—	—	144	—	—	—	516	3
Port Pirie	—	—	—	—	1	—	747	—
Port Stanvac	—	—	2,047	—	—	—	144	—
Whyalla	—	—	141	—	2	—	687	—
Other	—	—	109	—	—	—	825	17
<i>Total South Australia</i>	<i>12</i>	<i>59</i>	<i>2,842</i>	<i>307</i>	<i>51</i>	<i>35</i>	<i>3,793</i>	<i>437</i>
Western Australia—								
Fremantle	140	208	4,794	135	254	51	4,911	169
Albany	—	—	128	—	1	—	536	—
Bunbury	—	—	176	1	—	—	2,336	18
Dampier	—	22	212	—	—	37	33,289	—
Geraldton	—	—	71	—	—	—	1,144	21
Port Hedland	—	—	191	7	—	—	31,915	1
Port Walcott	—	—	321	—	—	—	11,893	—
Yampi Sound	—	—	—	—	—	—	2,832	—
Other	—	2	144	1	1	1	1,787	82
<i>Total Western Australia</i>	<i>140</i>	<i>232</i>	<i>6,036</i>	<i>144</i>	<i>255</i>	<i>88</i>	<i>90,641</i>	<i>292</i>
Tasmania—								
Hobart	3	—	173	20	1	—	624	7
Burnie	11	2	72	6	63	2	137	24
Devonport	—	—	5	—	—	—	11	1
Launceston	—	—	81	11	1	—	1,705	1
Port Latta	—	—	16	—	—	—	1,994	—
Other	—	—	10	—	—	—	199	—
<i>Total Tasmania</i>	<i>15</i>	<i>2</i>	<i>357</i>	<i>37</i>	<i>65</i>	<i>2</i>	<i>4,670</i>	<i>33</i>
Northern Territory—								
Darwin	1	3	424	17	—	—	14	13
Groote Eylandt	—	—	23	—	—	31	1,032	—
Gove	—	—	599	—	—	—	3,052	—
<i>Total Northern Territory</i>	<i>1</i>	<i>3</i>	<i>1,046</i>	<i>17</i>	<i>—</i>	<i>31</i>	<i>4,098</i>	<i>13</i>
Australia	1,708	3,949	20,176	2,804	3,096	1,231	161,998	980

The following table shows details of overseas cargo discharged and loaded at principal Australian ports during 1977-78 and 1978-79.

OVERSEAS CARGO DISCHARGED AND LOADED AT PRINCIPAL PORTS

('000)

Port	1977-78				1978-79			
	Discharged		Loaded		Discharged		Loaded	
	Tonnes	Cubic metres	Tonnes	Cubic metres	Tonnes	Cubic metres	Tonnes	Cubic metres
New South Wales—								
Sydney	3,149	2,162	5,717	600	2,628	2,986	5,024	599
Botany Bay	1,786	1	85	—	1,806	1	189	—
Newcastle	1,130	24	11,791	17	1,118	14	12,757	3
Port Kembla	576	—	7,316	—	651	—	6,410	—
Other	8	4	732	—	1	2	388	—
<i>Total New South Wales</i>	<i>6,648</i>	<i>2,190</i>	<i>25,642</i>	<i>618</i>	<i>6,204</i>	<i>3,003</i>	<i>24,767</i>	<i>602</i>
Victoria—								
Melbourne	1,076	1,820	1,328	453	1,143	2,213	1,461	506
Geelong	1,390	14	2,974	40	1,429	26	1,803	65
Portland	195	—	488	4	247	—	532	8
Westernport	1	—	1,323	—	153	—	2,170	—
<i>Total Victoria</i>	<i>2,662</i>	<i>1,833</i>	<i>6,113</i>	<i>497</i>	<i>2,972</i>	<i>2,239</i>	<i>5,967</i>	<i>579</i>
Queensland—								
Brisbane	966	508	1,336	80	788	629	2,107	97
Cairns	46	—	410	—	33	—	472	—
Gladstone	647	—	7,952	6	669	47	8,948	—
Hay Point	—	—	14,220	—	—	—	12,344	—
Mackay	98	—	729	—	73	1	406	—
Townsville	496	25	1,215	4	535	32	1,062	1
Weipa	94	—	4,714	—	136	1	4,397	—
Other	8	—	1,331	—	23	—	1,050	1
<i>Total Queensland</i>	<i>2,354</i>	<i>533</i>	<i>31,907</i>	<i>89</i>	<i>2,259</i>	<i>710</i>	<i>30,786</i>	<i>99</i>
South Australia—								
Port Adelaide	432	315	558	581	413	366	808	453
Ardrossan	—	—	104	—	—	—	113	—
Port Lincoln	85	—	291	—	144	—	516	3
Port Pirie	—	—	626	—	—	—	748	—
Port Stanvac	2,006	—	184	—	2,047	—	144	—
Whyalla	104	—	871	—	141	—	689	—
Other	61	—	280	38	109	—	826	17
<i>Total South Australia</i>	<i>2,687</i>	<i>315</i>	<i>2,913</i>	<i>618</i>	<i>2,854</i>	<i>366</i>	<i>3,844</i>	<i>472</i>
Western Australia—								
Fremantle	4,779	348	6,101	216	4,934	343	5,164	220
Albany	140	—	869	34	128	—	536	—
Bunbury	160	1	2,428	35	176	1	2,336	18
Dampier	248	—	31,189	—	212	22	33,289	37
Geraldton	63	—	1,036	27	71	—	1,144	21
Port Hedland	191	6	31,599	1	191	7	31,915	1
Port Walcott	337	—	11,419	—	321	—	11,893	—
Yampi Sound	2	—	2,603	—	—	—	2,832	—
Other	128	—	2,001	72	143	2	1,788	83
<i>Total Western Australia</i>	<i>6,047</i>	<i>355</i>	<i>89,245</i>	<i>385</i>	<i>6,176</i>	<i>376</i>	<i>90,897</i>	<i>380</i>
Tasmania—								
Hobart	117	22	247	—	176	20	625	8
Burnie	46	9	189	1	83	9	199	26
Devonport	4	—	18	24	5	—	11	1
Launceston	81	7	1,407	4	81	11	1,707	1
Port Latta	—	—	1,887	—	16	—	1,994	—
Other	19	—	480	—	10	—	199	—
<i>Total Tasmania</i>	<i>266</i>	<i>38</i>	<i>4,229</i>	<i>29</i>	<i>371</i>	<i>40</i>	<i>4,735</i>	<i>34</i>
Northern Territory—								
Darwin	416	4	12	—	426	20	14	13
Groote Eylandt	15	—	870	—	23	—	1,032	31
Gove	617	—	3,535	—	599	—	3,052	—
<i>Total Northern Territory</i>	<i>1,048</i>	<i>4</i>	<i>4,416</i>	<i>—</i>	<i>1,047</i>	<i>20</i>	<i>4,098</i>	<i>44</i>
Australia	21,712	5,269	164,464	2,236	21,884	6,753	165,094	2,210

Overseas cargo according to major trade areas and type of service

The following table shows details of cargo loaded in Australia for discharge overseas, and cargo discharged in Australia from overseas, classified according to the major trade areas of the world, by type of shipping service (i.e. liner or tramp, bulkship and tanker).

OVERSEAS CARGO LOADED AND DISCHARGED IN AUSTRALIA: MAJOR TRADE AREAS BY TYPE OF SERVICE
(^{'000})

<i>Major trade areas</i>	<i>Liners(a)</i>		<i>Tramps, bulkships, tankers</i>		<i>All vessels</i>	
	<i>Tonnes</i>	<i>Cubic metres</i>	<i>Tonnes</i>	<i>Cubic metres</i>	<i>Tonnes</i>	<i>Cubic metres</i>
1978-79—						
Overseas cargo loaded—						
North America	753	112	6,360	1	7,113	113
South America	33	9	627	—	660	9
Europe (excluding U.S.S.R.)	771	357	27,503	4	28,274	361
Africa	98	39	2,110	47	2,208	87
Asia (excluding U.S.S.R.)—						
Eastern Asia	1,137	239	113,877	103	115,014	342
Other Asia	943	350	7,488	609	8,432	958
Total Asia	2,080	589	121,366	712	123,446	1,300
U.S.S.R. (in Europe and Asia)	48	—	480	—	528	—
Papua New Guinea, New Zealand and Pacific Islands	975	291	1,882	30	2,857	322
Indian Ocean Islands and Antarctic Area	—	—	8	19	8	19
Overseas cargo discharged—						
North America	618	1,293	1,775	229	2,394	1,522
South America	9	15	5	—	14	15
Europe (excluding U.S.S.R.)	463	1,663	596	220	1,059	1,882
Africa	53	73	268	—	321	73
Asia (excluding U.S.S.R.)—						
Eastern Asia	413	1,236	2,156	1,204	2,569	2,440
Other Asia	195	481	12,365	131	12,561	611
Total Asia	608	1,717	14,522	1,334	15,130	3,051
U.S.S.R. (in Europe and Asia)	4	4	—	—	4	5
Papua New Guinea, New Zealand and Pacific Islands	534	106	1,731	90	2,265	196
Indian Ocean Islands and Antarctic Area	—	—	697	8	697	8
Total loaded—						
1976-77	4,663	1,691	160,236	528	164,899	2,219
1977-78	3,956	1,413	160,508	823	164,464	2,236
1978-79	4,759	1,398	160,335	813	165,094	2,210
Total discharged—						
1976-77	2,458	5,651	18,097	2,125	20,554	7,775
1977-78	2,090	3,645	19,621	1,624	21,712	5,269
1978-79	2,289	4,872	19,595	1,881	21,884	6,753

(a) Cargo and passenger liners.

Overseas cargo according to country of registration of vessels

The following table shows the total overseas cargo, discharged and loaded combined, according to the country in which the vessels were registered.

**OVERSEAS CARGO DISCHARGED AND LOADED, BY COUNTRY OF REGISTRATION OF VESSELS:
AUSTRALIA**

('000)

Country of registration of vessels	1976-77		1977-78		1978-79	
	Tonnes	Cubic metres	Tonnes	Cubic metres	Tonnes	Cubic metres
Australia	2,427	763	3,998	530	4,300	903
Belgium-Luxembourg	969	1	744	2	1,530	36
Canada	1,047	—	86	—	—	—
China—excl. Taiwan Province	1,912	—	5,909	—	7,220	58
—Taiwan Province only	1,256	48	1,808	15	2,369	16
Denmark	1,517	206	1,456	297	1,548	307
Germany, Federal Republic of	3,718	756	2,919	566	1,709	563
Greece	9,830	187	8,495	64	8,841	106
Hong Kong	1,850	163	2,150	196	2,143	427
India	5,060	62	2,154	61	1,738	46
Japan	74,506	1,544	74,317	1,393	68,693	1,193
Korea, Republic of	1,077	6	1,960	4	3,545	2
Liberia	31,903	519	34,110	294	36,981	416
Norway	11,188	420	11,087	198	8,578	338
Panama	7,802	456	8,543	471	11,436	698
Singapore, Republic of	1,928	510	2,315	422	2,864	525
Sweden	1,694	462	1,736	249	677	394
United Kingdom	16,272	2,481	13,224	1,357	12,440	1,327
U.S.S.R.	1,305	178	655	65	698	198
Other	8,196	1,232	8,508	1,319	9,664	1,407
Grand total	185,453	9,994	186,175	7,503	186,976	8,961

Vessels registered in Australia

The following table shows the number and gross tonnage of trading vessels of 150 tons or more registered in Australia at 30 June 1980, classified according to: (i) year of construction; (ii) type of trade in which the vessels were engaged; and (iii) vessels built in Australian or in overseas shipyards.

AUSTRALIAN-REGISTERED TRADING VESSELS, 30 JUNE 1980(a)

(Source: Department of Transport)

Year of construction	Overseas and interstate vessels		Intrastate vessels		Built in Australian yards		Built overseas		Total	
	No.	Gross tons	No.	Gross tons	No.	Gross tons	No.	Gross tons	No.	Gross tons
1975 and earlier	43	584,108	21	194,628	46	566,783	18	211,953	64	778,736
1976	5	167,700	—	—	3	28,267	2	139,433	5	167,700
1977	7	244,028	1	2,851	3	46,991	5	199,888	8	246,879
1978	7	141,665	—	—	1	25,849	6	115,816	7	141,665
1979	4	97,762	—	—	—	—	4	97,762	4	97,762
1980	—	—	1	2,792	—	—	1	2,792	1	2,792
Registered in Australia	66	1,235,263	23	200,271	53	667,890	36	767,644	89	1,435,534

(a) Excludes vessels of 150 gross tons and under.

Miscellaneous**Shipping casualties**

Courts of Marine Inquiry are constituted by a magistrate assisted by skilled assessors and when necessary, are held at the principal port in each State and at Launceston (Tasmania). Such courts have power to deal with the certificates of officers who are found at fault.

RAILWAYS

Government railways

Government railways in Australia operate in all States and Territories and provide an important means of transportation. In 1978-79 a total of 110.0 million tonnes of freight was carried, an increase of 129.0 per cent over the 48.0 million tonnes carried in 1958-59. However, in the same twenty-year period, the number of passengers carried (mostly within the suburban areas of Sydney and Melbourne) declined by 29.3 per cent from 485 million in 1958-59 to 375 million in 1978-79. The number of train-kilometres run during 1978-79 (148 million) was an increase of 1.4 per cent since 1958-59 (146 million), which is an indication of the trend towards heavier train loads with the more powerful motive power now available. Since the introduction of the first mainline diesel-electric locomotives in 1950, their numbers have increased greatly until at 30 June 1979 there were 1,695 throughout Australia. Diesel-electric locomotives during 1978-79 hauled 97 million train-kilometres, while electric and other locomotives hauled 4 million train-kilometres.

The Australian National Railways Commission (ANRC) assumed full control over the Tasmanian and non-metropolitan South Australian railways on 1 March 1978. This change is reflected in the figures for the 1977-78 financial year as many data items, previously available separately from these three systems, are now included in the figures shown for the ANRC. Urban rail services in South Australia remain the responsibility of the State Transport Authority (STA) and particulars of these are shown as the South Australian railway system.

Due to changes in accounting procedures and the introduction of a multi-modal system of travel, i.e. one ticket can cover a journey involving more than one mode, the STA cannot provide, in many instances, separate particulars for train, bus and tram services operated by that authority. Where data is not separately identifiable it has been included in relevant tables in the railway section of this year book.

Railway development

Details outlining railway development in Australia are given in Year Book No. 61, page 380. The following table sets out the route-kilometres of government railways in each State and Territory from 1973 to 1978. Details prior to 1973 can be found in Year Book No. 61, page 381.

GOVERNMENT RAILWAYS: ROUTE-KILOMETRES OPEN, 1973 TO 1978

(Kilometres)

30 June—	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1973	10,129	6,357	9,560	5,904	6,897	830	789	8	40,474
1974	10,130	6,329	9,472	5,905	6,922	851	789	8	40,406
1975	10,131	6,331	9,780	5,909	6,805	851	789	8	40,604
1976	10,130	6,325	9,844	5,915	6,893	849	789	8	40,753
1977	10,130	6,251	9,796	5,911	6,895	864	278	8	40,133
1978	10,138	6,036	9,787	6,383	6,494	864	..	8	39,710

One feature of the Australian government railways is the variety of gauges to which they are built. There are three principal gauges: 'broad' (1,600 mm), 'standard' (1,435 mm), and 'narrow' (1,067 mm). Extensive route-kilometres of 1,067 mm gauge railway were built in areas where traffic volumes were initially known to be small and where it was imperative to minimise the costs of construction. The following table shows the route-kilometres open in each State and Territory at 30 June 1978 according to gauge.

GOVERNMENT RAILWAYS: ROUTE-KILOMETRES OPEN, BY GAUGE, 30 JUNE 1978

(Kilometres)

Gauge	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Aust.
1600 mm	(a)328	5,711	..	(b)2,537	..	..	..	8,576
1435 mm	(c)9,810	(d)325	111	2,027	2,107	..	8	14,388
1067 mm	..	..	9,676	1,819	(e)4,387	864	..	16,746
762 mm	..	..	..	..	..	..	..	..
610mm	..	..	..	..	..	..	..	..
Total	10,138	6,036	9,787	6,383	6,494	864	8	39,710
Per 1,000 of population	2.02	1.58	4.52	4.96	5.31	2.09	0.04	2.79
Per 1,000 square kilometre	12.64	26.47	5.67	6.49	2.57	12.71	4	5.17

(a) Part of the Victorian railway system. (b) Includes 142 kilometres of the Adelaide metropolitan railway system operated by the South Australian State Transport Authority. (c) Includes 47 kilometres of 1435 mm gauge line from Broken Hill to Cockburn operated by the Australian National Railways. (d) Includes 12 kilometres of 1435/1600mm dual gauge line which operates in the Melbourne metropolitan area. (e) Excludes 148 kilometres of 1067/1435 mm dual gauge line which is included in the figure shown for the 1435 mm gauge line.

Government railway systems

The six government owned railway systems are operated by the State Rail Authority of New South Wales (SRA), Queensland Government Railways (QR), Victorian Railways (VR), Western Australian Government Railways (WAGR), the State Transport Authority of South Australia (STA), and Australian National Railways (ANR).

As the Australian National Railways system includes routes in more than one State, and the Victorian system extends into New South Wales, the system route-kilometres shown in the following table do not represent route-kilometres within each State and Territory (these are shown in the previous table). The route-kilometres of each system open for traffic, according to gauge, at 30 June 1978 is shown in the following table.

GOVERNMENT RAILWAYS: ROUTE-KILOMETRES OPEN, BY GAUGE(a)
AND SYSTEM 30 JUNE 1978

(Kilometres)

System	Gauge			
	1600 mm	1435 mm	1067 mm	Total
New South Wales	..	(b)9,763	..	9,763
Victoria	(c)6,039	325	..	6,364
Queensland	..	(d)111	9,676	9,787
South Australia	(e)142	..	..	142
Western Australia	..	1,377	(f)4,387	5,764
National	(e)2,395	2,812	2,683	7,890
Australia	8,576	14,388	16,746	39,710

(a) In October 1977 the Emerald Tourist Railway Board took over the operations of the narrow gauge (762 mm) rail service running between Belgrave and Lakeside in Victoria. The narrow gauge (610 mm) Innisfail and Mourilyan tramways in Queensland were sold to private enterprise in May 1977. (b) Includes 456 kilometres which are electrified. (c) Includes 328 kilometres of 1600 mm gauge line operating in New South Wales. Includes 447 route-kilometres which are electrified. (d) Operated by the Public Transport Commission of New South Wales which is reimbursed for the cost of operations. (e) See paragraphs 2 and 3, page 483. (f) Excludes 148 kilometres of 1435 mm/1067 mm dual gauge line which is included in the 1435 mm gauge line.

The SRA (1435 mm gauge) operates lines radiating southwest and west from Sydney, northwest from Newcastle, and north from Sydney to Brisbane. QR (1067 mm gauge) operates a coastal line from Brisbane to Cairns, with long branches inland from the major ports. VR (1600 mm gauge, with the 1435 mm gauge Albury to Melbourne line) operates a network throughout Victoria and extending into New South Wales. WAGR (1067 mm gauge) operates in south-western Western Australia, and also operates standard gauge (1435 mm) from Perth to Kalgoorlie, Esperance and Leonora. The STA (1600 mm gauge) operates railways in the Adelaide metropolitan area only. ANR operates the non-metropolitan railways in South Australia (1600 mm and 1067 mm gauge), including the isolated Eyre Peninsula system (1067 mm gauge), the Tasmanian main line from Hobart to Launceston, with its branches (1067 mm gauge) and the railways (1435 mm gauge) from Kalgoorlie to Broken Hill, Queanbeyan to Canberra, Port Augusta to Marree, and Tarcoola to Alice Springs. Services on the Darwin to Larrimah line (1067 mm gauge) ceased on 1 July 1976.

See also details in the annual publication *Rail, Bus and Air Transport, Australia* (9201.0), and Year Book No. 58, page 348.

The Commonwealth Government has enacted legislation for the construction of a standard gauge connection between Adelaide and the Trans-Australian Railway at Crystal Brook. Work on this project is being undertaken by the Australian National Railways. When the link is completed, all mainland State capital cities will be connected to the standard gauge network.

The new all-weather standard gauge railway between Tarcoola, on the Trans-Australian Railway, and Alice Springs was officially opened in October 1980 and replaces the existing flood-prone narrow gauge section of the Central Australia Railway between Marree and Alice Springs.

Operations of Government railway systems

Particulars of train-kilometres, passenger journeys, passenger-kilometres, freight-tonnes carried, and freight tonne-kilometres included in this section refer only to operations for which revenue is received.

Summary of operations

GOVERNMENT RAILWAYS: SUMMARY OF OPERATIONS, SYSTEMS, 1978-79

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>National</i>	<i>Aust.</i>
Train-kilometres (^{'000})(a) —							
Suburban passenger	20,715	13,386	3,693	3,957	2,201	—	43,952
Country passenger	9,704	6,650	3,939	..	1,118	3,171	24,582
Goods(b)	25,203	10,820	24,469	..	8,749	9,746	78,986
Total	55,621	30,856	32,100	3,957	12,068	12,918	147,520
Passenger journeys (^{'000})(c) —							
Suburban	179,079	89,258	25,850	(g)70,526	n.a.	..	n.a.
Country(d)	3,670	4,065	1,425	..	234	677	10,071
Total	182,749	93,323	27,275	(g)70,526	n.a.	677	n.a.
Passenger-kilometres (^{'000})(e) —							
Suburban	n.a.	1,458,932	n.a.	n.a.	n.a.	..	n.a.
Country	n.a.	432,045	n.a.	n.a.	98,329	296,203	n.a.
Total	n.a.	1,890,977	n.a.	n.a.	n.a.	296,203	n.a.
Freight —							
Tonnes carried (^{'000})(d)	33,482	11,190	36,542	..	19,288	10,623	111,125
Net tonne-kilometres (million)(f)	8,776.7	3,145.3	10,925.2	..	4,178.8	5,029.5	32,055.5

(a) One train (i.e. a complete unit of locomotive and vehicles, electric train set, or rail motor) travelling one kilometre for revenue purposes. (b) Includes mixed train-kilometres. (c) Based on ticket sales making allowances for periodical tickets. Tickets sold at concession rates are counted as full journeys. (d) Inter-system traffic is included in the total for each system over which it passes. (e) One passenger travelling one kilometre. (f) One tonne carried one kilometre. (g) See paragraphs 2 and 3, page 483.

Rolling stock

GOVERNMENT RAILWAYS: ROLLING STOCK INCLUDED IN CAPITAL ACCOUNT

(Number)

System and date	Locomotives				Coaching stock	Goods stock	Service stock
	Diesel-electric	Electric	Other(a)	Total			
30 June 1979(b)							
New South Wales	485	39	20	544	2,080	13,040	1,978
Victoria	266	35	41	342	1,517	12,645	1,181
Queensland	455	—	77	532	1,043	20,731	2,361
South Australia	2	—	4	6	165	—	14
Western Australia	194	—	21	215	137	10,356	482
National	293	—	40	333	113	10,391	1,176
Australia	1,695	74	203	1,972	5,055	67,163	7,192
30 June—							
1978(b)	1,674	74	194	1,942	6,872	71,043	7,225
1977	1,646	74	262	1,982	7,615	75,694	6,616
1976	1,590	75	326	1,991	7,592	78,405	7,256
1975	1,573	75	332	1,980	7,624	78,810	7,614
1974	1,563	76	372	2,011	7,870	79,086	7,723

(a) Includes non-passenger-carrying diesel power vans and steam locomotives.

(b) Excludes jointly-owned stock.

Train-kilometres

Train-kilometres by type of service and motive power

GOVERNMENT RAILWAYS: TRAIN-KILOMETRES 1978-79

('000 kilometres)

	N.S.W.	Vic.	Qld	S.A.	W.A.	National	Aust.
Type of service—							
Passenger—suburban	20,715	13,386	3,693	3,957	2,201	—	43,952
Passenger—country	9,704	6,650	3,939	—	1,118	3,171	24,582
Goods(a)	25,203	10,820	24,469	—	8,749	9,746	78,986
Total	55,622	30,856	32,100	3,957	12,068	12,918	147,520
Type of motive power—							
Hauled by diesel-electric locomotives	30,653	15,120	29,642	4	9,468	11,983	96,871
Hauled by electric and other locomotives(b)	2,539	1,350	226	2	1	—	4,117
Powered coaching stock	22,430	14,386	2,233	3,950	2,599	934	46,532
Total	55,622	30,856	32,100	3,957	12,068	12,918	147,520

(a) Includes mixed train-kilometres.

(b) Includes steam locomotives.

Total train-kilometres

TRAIN-KILOMETRES

('000 kilometres)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	National	Aust.
1973-74	58,255	33,345	28,542	10,313	12,617	2,154	5,966	151,192
1974-75	55,661	33,876	30,114	10,189	12,866	1,983	5,936	150,624
1975-76	54,943	33,818	30,813	10,304	12,856	1,748	5,595	150,078
1976-77	57,039	33,489	30,206	10,742	12,846	1,667	5,134	151,125
1977-78	56,860	32,013	30,199	3,982	12,596	..	13,152	148,801
1978-79	55,622	30,856	32,100	3,957	12,068	..	12,918	147,520

Freight traffic*Freight carried***GOVERNMENT RAILWAYS: FREIGHT CARRIED(a), SYSTEMS**

('000 tonnes)

<i>Commodity and year</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>National</i>	<i>Aust.</i>
1978-79—								
Grain	3,260	2,884	1,816	..	3,109	..	1,093	12,162
Other agricultural produce	1,208	348	1,816	..	179	..	97	3,648
Coal, coke and briquettes	17,913	783	24,121	..	1,399	..	1,692	45,908
Other minerals(b)	2,939	745	3,949	..	10,680	..	1,653	19,966
Iron and steel	1,786	610	(c)	..	—	..	657	3,053
Fertilisers	271	672	122	..	479	..	484	2,028
Cement	425	774	139	..	68	..	464	1,870
Timber	94	180	113	..	210	..	821	1,418
Containers	2,724	831	759	..	—	..	1,067	5,381
Livestock	160	162	1,212	..	17	..	310	1,861
All other commodities	2,702	3,202	2,494	..	3,148	..	2,285	13,831
Total	33,482	11,190	36,542	..	19,288	..	10,623	111,125
1977-78	33,434	11,120	34,155	..	18,625	..	9,995	107,329
1976-77	33,777	10,971	34,237	6,402	19,003	1,644	3,909	109,943
1975-76	31,234	10,803	33,118	6,139	17,647	1,610	3,804	104,355
1974-75	33,476	11,057	30,208	6,738	16,153	1,731	4,102	103,465
1973-74	32,651	11,370	25,401	6,607	14,839	1,828	4,270	96,966

(a) Inter-system traffic is included in the total for each system (including each National railway) over which it passes. (b) Includes sand and gravel. (c) Included in item "All other commodities".

*Freight net tonne-kilometres***GOVERNMENT RAILWAYS: FREIGHT NET TONNE-KILOMETRES, SYSTEMS**

(Million)

<i>Commodity and year</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>National</i>	<i>Aust.</i>
1978-79—								
Grain	1,231.3	829.8	(a)	..	939.7	..	188.1	(a)
Other agricultural produce	627.3	111.3	(a)	..	74.6	..	57.7	(a)
Coal, coke and briquettes	1,565.5	139.6	(a)	..	219.1	..	433.5	(a)
Other minerals(b)	581.3	130.1	(a)	..	1,444.2	..	381.4	(a)
Iron and steel	1,221.7	197.4	(a)	..	—	..	603.6	(a)
Fertilisers	166.6	168.4	(a)	..	184.8	..	163.5	(a)
Cement	141.5	115.3	(a)	..	29.4	..	66.0	(a)
Timber	92.8	59.9	(a)	..	69.1	..	168.2	(a)
Containers	1,522.0	342.4	(a)	..	—	..	845.8	(a)
Livestock	101.1	49.4	662.4	..	6.8	..	161.2	980.9
All other commodities	1,525.6	1,001.6	10,262.8	..	1,211.2	..	1,960.5	15,961.7
Total	8,776.7	3,145.3	10,925.2	..	4,178.8	..	5,029.5	32,055.5
1977-78	9,243.3	3,108.7	10,417.2	..	4,273.1	..	4,794.2	31,836.5
1976-77	9,320.2	3,042.2	10,286.6	1,834.0	4,532.5	247.5	2,732.4	31,995.4
1975-76	8,566.9	3,071.4	10,101.2	1,686.6	4,542.4	231.8	2,609.0	30,809.3
1974-75	8,782.3	3,091.4	9,118.0	1,756.9	4,262.4	273.3	2,507.4	29,791.7
1973-74	8,642.5	3,126.2	7,855.1	1,753.1	4,142.5	277.9	2,532.0	28,329.3

(a) Not available separately, included with 'All other commodities'. (b) Includes sand and gravel.

Finance

GOVERNMENT RAILWAYS: GROSS EARNINGS^(a), SYSTEMS, 1978-79
(S'000)

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.(e)</i>	<i>W.A.</i>	<i>National</i>	<i>Aust.</i>
Coaching—							
Suburban passenger	59,924	41,208	7,364	n.a.	n.a.	..	n.a.
Country passenger	25,992	16,012	6,444	..	3,617	10,078	62,143
Other	9,730	10,495	4,754	n.a.	2,377	1,960	n.a.
<i>Total coaching</i>	<i>95,646</i>	<i>67,715</i>	<i>18,562</i>	<i>n.a.</i>	<i>5,994</i>	<i>12,038</i>	<i>199,955</i>
Freight (goods and livestock)—							
Grain	(c)	26,649	20,650	..	34,096	7,397	n.a.
Other agricultural produce	(c)	4,225	15,490	..	4,199	1,303	n.a.
Coal, coke and briquettes	(c)	5,746	120,608	..	9,243	4,592	n.a.
Other minerals ^(d)	(c)	3,368	28,206	..	28,753	9,847	n.a.
Iron and steel	(c)	4,831	—	..	—	7,450	n.a.
Fertilisers	(c)	4,070	2,695	..	4,989	3,081	n.a.
Cement	(c)	4,957	2,014	..	1,306	2,057	n.a.
Timber	(c)	2,371	1,813	..	3,161	4,011	n.a.
Containers	(c)	6,095	9,152	..	—	16,479	n.a.
Livestock	(c)	1,789	30,551	..	312	4,920	n.a.
All other commodities	(c)	37,715	53,520	..	42,114	46,972	n.a.
<i>Total freight</i>	<i>252,300</i>	<i>101,815</i>	<i>284,699</i>	<i>..</i>	<i>128,172</i>	<i>108,109</i>	<i>875,095</i>
Miscellaneous	31,087	23,126	7,157	n.a.	20,431	11,682	93,483
<i>Grand total</i>	<i>379,033</i>	<i>192,656</i>	<i>310,418</i>	<i>24,550</i>	<i>154,597</i>	<i>131,829</i>	<i>1,193,083(e)</i>

(a) Excludes Government grants.
gravel. (e) Includes South Australia.

(b) See paragraphs 2 and 3, page 483.

(c) Not available separately.

(d) Includes sand and

GOVERNMENT RAILWAYS: WORKING EXPENSES, SYSTEMS, 1978-79
(S'000)

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>National</i>	<i>Aust.</i>
Maintenance of way and works	110,330	(b)	98,215	n.a.	(a)39,076	n.a.	n.a.
Motive power ^(c)	230,266	(b)	139,281	n.a.	(a)41,348	n.a.	n.a.
Traffic	163,340	299,839	95,805	n.a.	58,188	n.a.	n.a.
Other charges	176,064	47,963	31,769	n.a.	21,155	n.a.	n.a.
<i>Total</i>	<i>679,999</i>	<i>347,802</i>	<i>365,070</i>	<i>(d)71,043</i>	<i>(a)159,767</i>	<i>204,738</i>	<i>1,828,389</i>

(a) Includes provision of reserves for depreciation.
rolling stock. (d) See paragraphs 2 and 3, page 483.

(b) Not available separately; included with traffic.

(c) Includes maintenance of

GOVERNMENT RAILWAYS: GROSS EARNINGS, WORKING EXPENSES, AND NET EARNINGS, SYSTEMS

(\$'000)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	National	Aust.
GROSS EARNINGS								
1973-74	262,691	115,613	149,844	39,531	78,480	7,674	37,217	691,050
1974-75	291,373	129,942	183,687	47,950	106,844	8,266	41,367	809,429
1975-76	318,763	147,292	230,492	49,688	130,850	8,048	54,618	939,751
1976-77	351,875	163,512	262,561	54,284	137,323	8,780	62,590	1,040,925
1977-78	380,724	176,522	273,551	(c)6,113	149,477	(c)	(c)122,040	1,108,427
1978-79	379,033	192,656	310,418	(c)24,550	154,597	..	131,829	1,193,083
WORKING EXPENSES								
				(a)	(a)			
1973-74	349,897	188,599	162,101	60,747	81,916	15,598	44,423	903,281
1974-75	415,234	243,393	227,925	80,466	103,696	19,973	55,847	1,146,534
1975-76	472,188	271,940	265,662	91,352	118,607	22,087	64,279	1,306,115
1976-77	570,272	301,232	299,044	103,629	132,024	23,340	52,628	1,482,169
1977-78	643,623	332,508	337,002	(c)25,723	148,708	(c)	(c)195,796	1,683,360
1978-79	679,999	347,802	365,070	(c)71,043	159,737	..	204,738	1,828,389
NET EARNINGS(b)								
1973-74	-87,206	-72,986	-12,257	-21,216	-3,436	-7,924	-7,206	-212,231
1974-75	-123,861	-113,451	-44,238	-32,516	3,148	-11,707	-14,479	-337,104
1975-76	-153,425	-124,648	-35,170	-41,664	12,243	-14,039	-9,661	-366,364
1976-77	-218,397	-137,720	-36,483	-49,345	5,299	-14,560	9,962	-441,244
1977-78	-262,899	-155,986	-63,451(c)	-19,610	769	(c)(c)	-73,756	-574,933
1978-79	-300,966	-155,147	-54,652(c)	-46,493	-5,141	..	-72,909	-635,308

(a) Includes provision of reserves for depreciation.

(b) Excess of gross earnings over working expenses as shown in this table.

(c) See paragraphs 2 and 3, page 483.

GOVERNMENT RAILWAYS: SURPLUS OR DEFICIT, SYSTEMS, 30 JUNE 1979

(\$'000)

System	Net earnings—excess of gross earnings over working expenses	Plus grants and other earnings payable to railways				Less other expenses charged to railways					Surplus (+) or deficit (-)
		State Government grants	Road motor earnings	Other	Total	Interest and ex-change	Sinking fund	Road motor expenses (a)	Other	Total	
New South Wales	-300,966	(b)9,349	..	..	9,349	64,915	13,185	..	(c)1,628	79,728	371,345
Victoria	-155,147	(d)5	88	-	93	-	-	399	-	399	-155,453
Queensland	-54,652	-	-	-	-	56,733	-	-	(e)1,300	58,033	-112,685
South Australia(f)	-46,493	44,200	-	(g)21	44,221	-	-	-	-	-	-2,272
Western Australia	-5,141	-	1,370	-	1,370	16,836	-	3,475	(h)59	20,370	-24,140
National	-72,909	63,767	-	494	64,261	4,112	-	-	-	4,112	-12,760
Australia	-635,308	117,321	1,458	515	119,294	142,596	13,185	3,874	2,987	162,642	-678,656

(a) Includes interest and exchange.

(b) Grants to meet losses on country developmental lines, and the employer liability to the Government Railways Superannuation Account.

(c) Loan management and loan flotation expenses.

(d) Kerang-Koondrook tramway recoup from Treasury.

(e) Demolished assets written off.

(f) See paragraphs 2 and 3, page 483.

(g) Commonwealth Government V.P.T.I. Grant.

(h) Australian currency revaluation adjustment.

Employment, salaries and wages**GOVERNMENT RAILWAYS: AVERAGE NUMBER OF EMPLOYEES (EXCLUDING CONSTRUCTION STAFF) AND SALARIES AND WAGES PAID(a), 1978-79**

	<i>N.S.W.</i>	<i>Vic.(b)</i>	<i>Qld</i>	<i>S.A.(c)</i>	<i>W.A.</i>	<i>National (d)</i>	<i>Aust.</i>
Salaried staff	9,573	5,384	4,111	431	2,123	2,537	24,159
Wages staff	33,192	17,893	20,435	2,007	7,590	9,806	90,923
Total staff	42,765	23,277	24,546	2,438	9,713	12,343	115,082
Salaries and wages paid \$'000	515,291	262,137	282,734	28,638	104,054	143,754	1,336,608

(a) Excludes salaries and wages paid to road motor staff. (b) Includes construction staff. (c) See paragraphs 2 and 3, page 483. (d) Includes staff made available to the South Australian State Transport Authority.

Non-government railways

The Australian non-government railways covered in this section are those which operate outside industrial estates, harbour precincts, mines and quarries with a route distance exceeding two kilometres.

The figures in the following table have been compiled from information supplied to the Bureau of Transport Economics by the various railway operators. All operators provided details of tonnes consigned and most provided details of tonne-kilometres performed. In a few cases the tonne-kilometre figures have been estimated by the Bureau of Transport Economics using the advised average length of haul.

TRAFFIC TASK PERFORMED BY AUSTRALIAN NON-GOVERNMENT RAILWAYS 1973-74 TO 1978-79

<i>Year</i>	<i>Iron ore railways</i>	<i>Sugar tramways</i>	<i>Other non-government railways(a)</i>	<i>Total non-government railways(a)</i>	<i>Non-government as a percentage of total tonnes consigned/ tonne kilometres performed (per cent)</i>
TONNES CONSIGNED ('000)					
1973-74	84,867	16,442	19,970	121,279	54
1974-75	95,666	17,163	21,180	134,009	55
1975-76	83,837	18,844	17,847	120,528	53
1976-77	86,622	20,066	20,271	126,959	53
1977-78	85,898	20,268	17,859	124,025	53
1978-79	79,473	18,635	19,640	117,748	51
TONNE-KILOMETRES (million)					
1973-74	25,890	264	336	26,490	48
1974-75	29,559	275	341	30,175	50
1975-76	25,748	302	298	26,348	46
1976-77	26,646	322	369	27,337	46
1977-78	27,723	325	324	28,372	47
1978-79	24,930	299	337	25,566	44

(a) Includes transfers to and from Government railways.

TRAM, BUS, AND FERRY SERVICES**Systems in operation**

Trams and trolley-buses. At 30 June 1979 tram services were in operation in Melbourne, Victoria and in Adelaide, South Australia. The last of the trolley-bus services ceased to operate in Australia with its replacement by buses in Perth, Western Australia, on 29 August 1969. Regular tram services ceased to operate in Ballarat on 19 September 1971 and in Bendigo on 16 April 1972. However services are operated in both cities, on an irregular basis, but generally at holiday periods, as a tourist attraction.

In many parts of Australia private lines used for special purposes in connection with the timber, mining, sugar, or other industries are often called tramways, but they are more properly railways, and the traffic on them has nothing in common with that of the street tram used for the conveyance of passengers.

Buses. Services are operated by government or municipal authorities and private operators. Statistics are collected for government and municipal bus services located in all State capital cities; Canberra, Australian Capital Territory; Newcastle, New South Wales; Rockhampton, Queensland; Fremantle and the Eastern Goldfields area, Western Australia; Launceston and Burnie, Tasmania; Darwin, Northern Territory; and for country road services operated by the Victorian Railways, Public Transport Commission of New South Wales, the Western Australian Government Railways, and the Australian National Railways. Particulars of bus services under the control of private operators for the States of New South Wales, Victoria, Queensland and South Australia are given in the annual publication *Rail, Bus and Air Transport, Australia* (9201.0) for years prior to 1976-77.

Ferries. Ferry passenger services are operated in the following States: New South Wales, at Sydney and Newcastle; Western Australia, on the Swan River at Perth; Tasmania, on the Mersey River at Devonport and on the Derwent River at Hobart; and the Brisbane River at Brisbane. Control is exercised by both government authorities and private operators. Particulars of the operations of these services are given in previous issues of this Year Book and in the annual publication *Rail, Bus and Air Transport, Australia* (9201.0). There are no ferry passenger services in South Australia or Victoria.

Government and municipal tram and bus services

Because of the development in recent years of the various forms of public road transport under the control of single authorities and the gradual replacement of tram services by bus services, it is not possible to obtain separate statistics for all phases of the activities of each form of transport, particularly financial operations.

TRAM AND BUS SERVICES: GOVERNMENT AND MUNICIPAL STATES AND TERRITORIES, 1978-79

		N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Route-kilometres at 30 June—										
Tram (a)	kilometres	..	220	..	11	..	..	..	..	231
Bus	"	1,064	276	747	901	8,478	462	100	800	12,828
Vehicle-kilometres—										
Tram	'000	..	24,191	..	776	..	..	..	..	24,967
Bus	"	65,181	12,879	20,749	36,634	42,048	9,562	1,149	13,491	201,693
Rolling stock at 30 June—										
Tram	number	..	730	..	26	..	..	..	..	756
Bus	"	1,719	299	572	838	933	304	31	374	5,070
Passenger journeys—										
Tram	'000	..	101,070	..	(b)	..	..	..	..	(g)101,070
Bus	"	199,850	19,927	49,399	(b)	54,287	17,299	796	16,000	(g)357,559
Gross revenue (c)—										
Tram and bus	\$'000	44,101	36,100	16,775	(b)	17,384	4,186	402	4,793	(g)123,741
Working expenses (d)—										
Tram and bus	\$'000	114,211	62,672	24,416	(b)	33,745	10,373	619	12,608	(g)258,644
Net revenue—										
Tram and bus	\$'000	-70,111	-26,572	-7,641	(b)	-16,360	-6,187	-217	-7,814	(g)-134,902
Employees at 30 June—										
Tram and bus	number	6,731	4,749	1,471	(b)	2,189	598	80	729	(g)16,547
Accidents —										
Tram and bus (e)—										
Persons killed	number	7	14	1	5	-	-	-	-	(g)27
Persons injured	"	n.a.	796	296	320	407	33	1	75	(f)(g)1,885

(a) Gauge 1435 mm throughout. (b) Not separately available. See paragraphs 2 and 3, page 483. (c) Excludes government grants.

(d) Includes provision of reserves for depreciation, etc., where possible. (e) Excludes accidents to employees.

(f) Excludes New South Wales. (g) Excludes details of metropolitan tram and bus services operated by the South Australian State Transport Authority. See paragraph 2, page 483.

Minus sign (-) denotes deficit.

TRAM AND BUS SERVICES: GOVERNMENT AND MUNICIPAL

		1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Route-kilometres at 30 June—							
Tram	kilometres	227	228	228	228	228	231
Bus	"	11,780	11,859	11,217	12,142	12,649	12,828
Vehicle kilometres—							
Tram	'000	24,555	24,516	24,945	24,940	24,955	24,967
Bus	"	179,702	188,062	190,131	192,003	197,660	201,693
Rolling stock at 30 June—							
Tram	number	734	729	765	765	774	756
Bus	"	4,761	4,914	4,995	4,897	5,050	5,070
Passenger journeys—							
Tram	'000	110,791	112,329	107,375	104,188	102,581	(f) 101,070
Bus	"	417,513	(a) 413,844	403,058	404,228	413,987	(f) 357,558
Gross revenue(b)—							
Tram and bus	\$'000	105,149	112,690	121,420	123,740	134,457	(f) 123,741
Working expenses(c)—							
Tram and bus	\$'000	146,655	187,787	208,241	239,107	267,281	(f) 258,644
Net revenue—							
Tram and bus	\$'000	-41,506	-75,098	-86,821	-115,366	-132,824	(f) -134,902
Employees at 30 June—							
Tram and bus	number	17,549	17,829	17,846	18,276	n.a.	(f) 16,547
Accidents—							
Tram and bus(d)—							
Persons killed	number	10	14	22	25	22	(f) 27
Persons injured	"	2,587	(e) 1,245	(e) 1,535	(e) 1,609	(e) 1,727	(f) 1,885

(a) Excludes Northern Territory. (b) Excludes government grants. (c) Includes provision of reserve for depreciation, etc., where possible. (d) Excludes accidents to employees. (e) Excludes New South Wales. (f) Excludes details of metropolitan tram and bus services in South Australia. See paragraphs 2 and 3, page 483. Minus sign (-) denotes deficit.

MOTOR VEHICLES

Arrangements for the registration of motor vehicles and the licensing of drivers and riders are not uniform throughout Australia, since they are the function of a separate authority or authorities in each State and Territory.

Tables in this section include vehicles owned by private individuals, local government authorities, State Governments, and the Australian Government (excluding those belonging to the defence services).

Survey of motor vehicle usage

A survey was conducted throughout Australia in late 1979 by the Australian Bureau of Statistics for the purpose of gathering information on the usage of motor vehicles. Previous surveys were conducted in 1963, 1971 and 1976. The owners of approximately 53,000 vehicles other than buses were approached for information relating to the usage of their vehicles over the twelve months ended 30 September 1979. The framework from which the sample was drawn was obtained from the motor vehicle registration authorities in all States and Territories. The survey was based on respondents' recollection of their usage of the selected vehicles over their period of ownership during the survey year.

The main purpose of the survey was to determine the total distance travelled by vehicles, classified according to area and purpose of travel. Information was also obtained from the survey on: (i) tonne-kilometres; (ii) average load carried; (iii) vehicle usage (i.e. for hire and reward, ancillary or other); (iv) main type of operation; (v) fuel consumption; (vi) occupant-kilometres; and (vii) driver characteristics.

The following table shows, for Australia, total annual kilometres travelled for the twelve months ended 30 September 1979 classified by vehicle type and purpose of travel. The percentage standard errors (S.E.%) indicate the extent to which the estimates can vary by chance because only a sample and not the total vehicle population was enumerated. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained from a comparable complete enumeration, and about nineteen chances in twenty that the difference will be less than two standard errors. For example, if an estimate of 3,000 million kilometres has a standard error of 5 per cent (i.e. 150 million kilometres), then there would be approximately two chances in

three that a comparable complete collection would give a figure within the range of 2,850 million kilometres to 3,150 million kilometres and about nineteen chances in twenty that the figure would be within the range of 2,700 million kilometres to 3,300 million kilometres.

TOTAL ANNUAL KILOMETRES BY VEHICLE TYPE AND PURPOSE OF TRAVEL, TWELVE MONTHS ENDED 30 SEPTEMBER 1979 (FINAL)

Type of vehicle	Laden business		Unladen business		Total business (a)		Paid to and from work		Unpaid to and from work		Private		Total	
	million kilometres	S.E. %	million kilometres	S.E. %	million kilometres	S.E. %	million kilometres	S.E. %	million kilometres	S.E. %	million kilometres	S.E. %	million kilometres	S.E. %
Cars and station wagons	..	..	..	..	17,027.2	3.9	2,358.0	7.4	17,088.9	2.5	48,383.1	1.4	84,871.5	1.1
Motor cycles	..	..	..	..	168.9	10.4	52.5	15.7	606.6	5.5	940.1	5.0	1,768.2	3.6
Utilities and panel vans	5,315.4	5.5	2,232.2	8.1	8,298.3	4.7	376.3	15.8	2,219.8	7.5	5,033.3	5.2	15,928.0	2.6
Rigid trucks	3,801.8	1.7	1,658.2	2.4	5,460.1	1.7	36.4	10.6	167.9	20.0	172.7	6.4	5,837.2	2.0
Articulated trucks	1,806.1	1.2	773.5	1.4	2,580.4	1.0	3.6	21.0	19.5	7.2	4.0	11.6	2,607.4	1.0
Other truck type vehicles	..	..	..	..	232.0	8.7	3.5	35.4	28.7	13.2	192.7	8.6	456.9	5.4
Total	10,922.9	2.7	4,663.9	4.0	33,766.9	2.3	2,830.3	6.5	20,131.5	2.3	54,725.9	1.3	111,469.2	0.9

(a) Includes the total kilometres travelled for business purposes of cars, station wagons, motor cycles and utilities and panel vans predominantly used for private purposes. The dissection of business travel into laden/unladen was not sought for these vehicles.

Motor vehicles on register

Details of motor vehicles on the register are compiled by up-dating motor vehicle census data from information made available by the various motor vehicle registration authorities in the States and Territories. Censuses of motor vehicles have been conducted in respect of 31 December 1955 and 1962, and 30 September 1971, 1976 and 1979. At these census dates considerably greater information concerning the particulars shown in the tables following is available. Final detailed results of the 1979 census have now been published in separate census publications for each State and Territory and for Australia, however these details were not complete as this edition of the Year Book went to print.

MOTOR VEHICLE CENSUS: 30 SEPTEMBER 1976 (FINAL)
(^{'000})

State or Territory	Motor cars and station wagons		Panel vans	Trucks		Other truck type vehicles	Buses	Motor cycles	Total (a)
	Utilities			Rigid	Articulated				
New South Wales	1,712.9	131.8	108.0	115.7	13.1	7.8	11.2	95.5	2,196.0
Victoria	1,456.2	104.5	47.0	117.8	9.8	4.9	7.3	51.9	1,799.4
Queensland	723.4	129.4	42.1	43.8	5.9	3.2	3.6	72.8	1,024.0
South Australia	509.2	41.4	19.6	36.3	5.2	4.1	3.2	31.8	650.7
Western Australia	442.6	55.5	34.2	43.8	3.4	3.8	3.3	28.5	615.2
Tasmania	158.7	17.0	8.3	10.4	1.2	1.1	1.7	6.5	204.8
Northern Territory	19.3	8.0	2.0	2.0	0.3	0.2	0.2	2.7	34.8
Australian Capital Territory	79.9	4.6	4.7	2.5	0.1	0.1	0.9	3.7	96.6
Australia	5,102.2	492.3	265.9	372.2	39.0	25.1	31.4	293.4	6,621.5

(a) Excludes tractors, plant and equipment, caravans and trailers.

MOTOR VEHICLES ON REGISTER, BY TYPE OF VEHICLE, AUSTRALIA
(^{'000})

30 June	Motor cars and station wagons		Utilities, trucks, panel vans, other truck type vehicles and buses		Total (excludes motor cycles)		Motor cycles
1974	4,604.0	1,090.1	5,694.1	..	258.6
1975	4,858.5	1,140.2	5,998.7	..	277.7
1976	5,072.8	1,215.0	6,287.8	..	293.0
1977	5,243.0	1,279.6	6,522.6	..	295.5
1978	5,462.2	1,359.9	6,822.1	..	292.4
1979	5,657.2	1,412.7	7,069.9	..	288.2

MOTOR VEHICLES(a) ON REGISTER PER 1,000 OF POPULATION, STATES AND TERRITORIES

30 June	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1974	402.9	427.4	408.7	442.4	449.3	442.0	328.5	427.6	418.7
1975	419.8	447.2	413.1	467.1	470.7	461.8	334.5	433.7	435.6
1976	426.8	466.6	445.4	482.2	493.4	481.1	315.6	436.8	451.9
1977	435.1	470.1	463.9	498.7	523.7	494.9	328.0	456.3	463.4
1978	446.7	487.9	485.8	505.4	546.0	515.1	375.1	436.0	478.8
1979	457.2	498.2	504.1	509.8	557.5	531.0	371.9	465.9	490.2

(a) Excludes motor cycles, tractors, plant and equipment, caravans and trailers.

Registrations of new motor vehicles

Particulars of registrations of new motor vehicles are shown by type of vehicle in monthly bulletins, and by type and make of vehicle in quarterly and annual bulletins of Motor Vehicle Registrations.

In these statistics 'registrations' mean registrations processed by the motor vehicle registration authorities in the States and Territories during the period.

A revised classification of motor vehicles has been adopted for publication of statistics of new motor vehicle registrations from 1 July 1976. The principal difference between this classification and that which it replaces involves the categories utilities, panel vans, trucks and other truck type vehicles. The principle of accepting vehicle-type data as recorded by the registration authority has also been accepted. Consequently, figures shown from July 1976 are not strictly comparable with data for previous periods.

REGISTRATIONS OF NEW MOTOR VEHICLES, BY TYPE OF VEHICLE

State or Territory and year	Motor cars	Station wagons	Utilities	Panel vans	Trucks		Other truck type vehicles	Buses	Total (excludes motor cycles)	Motor cycles
					Rigid	Articulated				
1979 80										
New South Wales	129,247	33,442	11,940	13,132	12,554	1,557	502	1,018	203,392	20,279
Victoria	95,344	20,223	6,550	4,007	9,245	956	555	708	137,588	10,884
Queensland	57,343	15,028	15,146	5,358	3,012	675	181	502	97,245	10,350
South Australia	31,540	6,523	2,643	2,099	2,822	379	156	206	46,368	5,518
Western Australia	31,304	8,928	4,237	4,206	4,373	414	113	373	53,948	4,600
Tasmania	10,702	2,631	1,328	808	938	167	91	122	16,787	1,089
Northern Territory	1,656	773	1,550	259	137	70	8	48	4,501	486
Australian Capital Territory	5,882	1,384	432	300	460	64	5	68	8,595	741
Australia	363,018	88,932	43,826	30,169	33,541	4,282	1,611	3,045	568,424	53,947
1978 79	381,366	82,087	41,591	32,068	33,756	4,496	1,891	3,171	580,426	37,278
1977 78	359,472	72,967	45,946	40,312	35,034	4,000	2,474	3,712	563,917	38,049
1976 77	365,624	81,478	(a)48,420	(a)39,532	(a)36,051	(a)4,752	(a)2,749	3,205	581,811	50,321
1975 76	380,713	73,924	43,500	38,296	39,574	4,139	474	3,743	584,363	60,017
1974 75	433,244	69,476	45,151	36,647	32,675	3,545	409	3,040	624,187	67,563

(a) Not directly comparable with previous figures.

Drivers' and riders' licences

At 30 June 1979, the numbers of licences in force to drive or ride motor vehicles were: New South Wales, 2,886,503; Victoria, 2,072,172; South Australia, 741,388; Western Australia, 675,033; Tasmania, 222,217; Northern Territory, 56,990; Australian Capital Territory, 129,498. Particulars are not available for Queensland.

ROAD TRAFFIC ACCIDENTS

Compulsory fitting and use of seat belts and protective helmets in Australia

Information on the compulsory fitting and use of seat belts and protective helmets in Australia is given in Year Book No. 61, page 395.

Accidents involving casualties, persons killed, persons injured

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES(a): NUMBER OF ACCIDENTS, PERSONS KILLED OR INJURED, 1979

State or Territory	Number of accidents	Persons killed	Persons injured	Per 100,000 of mean population			Per 10,000 motor vehicles registered(b)		
				Number of accidents	Persons killed	Persons injured	Number of accidents	Persons killed	Persons injured
New South Wales	27,013	1,290	36,984	532	25	728	112	5	153
Victoria	13,898	847	19,690	361	22	511	70	4	100
Queensland	7,746	613	10,303	353	28	469	65	5	87
South Australia	8,359	309	11,338	646	24	876	121	4	164
Western Australia	7,025	279	9,342	565	22	751	98	4	130
Tasmania	1,507	93	2,114	361	22	506	67	4	93
Northern Territory	650	53	928	560	46	799	143	12	204
Australian Capital Territory	816	24	1,094	367	11	492	76	2	103
Australia	67,014	3,508	91,793	465	24	636	91	5	125

(a) Accidents reported to the police which occurred in public thoroughfares and which resulted in death within thirty days or in bodily injury to an extent requiring surgical or medical treatment. (b) Number of motor vehicles (excluding tractors, plant and equipment) on register at 30 June 1979.

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES(a): NUMBER OF ACCIDENTS, PERSONS KILLED OR INJURED

Year	N.S.W	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Total		
									Num-ber	Per 100,000 of mean popu-lation	Per 10,000 motor vehicles regis-tered
Accidents involving casualties—											
1974	29,853	12,542	8,086	9,469	4,742	1,393	575	813	67,473	496	(b)113
1975	28,217	12,514	8,241	8,793	5,104	1,496	554	869	65,788	478	(b)105
1976	27,393	12,680	7,814	8,090	5,287	1,603	582	833	64,282	462	(b)98
1977	27,943	14,803	7,696	7,922	6,224	1,603	634	868	67,693	481	(b)99
1978	29,451	14,957	8,094	8,160	7,513	1,641	716	802	71,334	501	(b)101
1979	27,013	13,898	7,746	8,359	7,025	1,507	650	816	67,014	465	(c)91
Persons killed—											
1974	1,275	806	589	382	334	111	44	31	3,572	26	(b)6
1975	1,288	910	635	339	304	122	64	32	3,694	27	(b)6
1976	1,264	938	569	307	308	108	51	38	3,583	26	(b)5
1977	1,268	954	572	306	290	112	47	29	3,578	25	(b)5
1978	1,384	869	612	291	345	106	68	30	3,705	26	(b)5
1979	1,290	847	613	309	279	93	53	24	3,508	24	(c)5
Persons injured—											
1974	40,429	17,539	10,627	12,725	6,277	1,911	788	1,042	91,338	672	(b)153
1975	38,141	17,437	11,019	12,020	6,832	2,137	789	1,124	89,499	650	(b)142
1976	37,327	17,653	10,405	11,082	7,059	2,323	814	1,145	87,808	631	(b)134
1977	38,407	19,874	10,002	10,781	8,353	2,343	882	1,176	91,818	652	(b)135
1978	40,875	20,377	10,850	11,209	10,069	2,274	980	1,051	97,685	686	(b)138
1979	36,984	19,690	10,303	11,338	9,342	2,114	928	1,094	91,793	636	(c)125

(a) See footnote (a) to previous table.
register.

(b) Average number of motor vehicles (excluding tractors, plant and equipment, etc.) on

(c) At 30 June 1979.

ROADS*

An article dealing with the development of roads in Australia is given in Year Book, No. 60, pages 385-93.

Summary of roads used for general traffic

Proclaimed or declared roads. The table following is a summary of the roads proclaimed or declared under the Acts of the several States relative to the operations of the central road authorities, and shows the lengths of various classes proclaimed or declared as at 30 June 1979. The central road authority in each State assumes responsibility under the Act for the whole, or a proportion, of the cost of construction and/or maintenance of these roads, the extent varying from State to State and with the class and locality of the roads. Before proclamation of a main road, consideration is given, in general, to the following points: availability of funds; whether the road is, or will be, within one of several classes of main trunk routes; the value of the roads as connecting links between centres of population or business; whether the district is, or will be, sufficiently served by railways. Provision is also made in some States for the declaration of roads other than main roads. The absence of a particular class in any State does not necessarily imply that there are no roads within that State that might be so classified; the classes are restricted only to roads proclaimed or declared under the Acts. A further point to make is that, through various causes (e.g. insufficiency of funds, man-power or materials), construction or maintenance may not keep pace with gazettal of roads, and, therefore, the condition of a road may not match its status.

PROCLAIMED OR DECLARED ROADS: LENGTHS, STATES, 30 JUNE 1979

(Kilometres)

<i>Class of road</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld(a)</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.(a)</i>	<i>Total</i>
State Highways	(b)10,595	7,310	10,354		7,716	1,960	
Trunk roads	7,097	14,567	152	13,575	7,582	-	108,905
Ordinary main roads	18,300		8,558			1,139	
<i>Total main roads</i>	<i>35,992</i>	<i>21,877</i>	<i>19,064</i>	<i>13,575</i>	<i>15,298</i>	<i>3,099</i>	<i>108,905</i>
Secondary roads	(c)285	-	(d)13,029	-	8,733	290	22,337
Development roads	3,461	-	8,028	-	-	157	11,646
Tourist roads	438	798	-	-	-	150	1,386
Other roads	2,610	(e)1,031	-	-	-	-	3,641
<i>Total other roads</i>	<i>6,794</i>	<i>1,829</i>	<i>21,057</i>	<i>-</i>	<i>8,733</i>	<i>597</i>	<i>39,010</i>
Grand total	42,786	23,706	40,121	13,575	24,031	3,696	147,915

(a) Figures as at 30 June 1978. Figures as at 30 June 1979 are not yet available.

(b) Includes 131 kilometres of freeways and tollways.

(c) Metropolitan only.

(d) Includes mining access roads, farmers' roads and tourist tracks.

(e) Forest tracks.

Total roads. The following table represents an attempt to classify all the roads open for general traffic in Australia, at the latest dates available, according to States and Territories and to certain broad surface groups. The figures in the table for the States are obtained from the Deputy Commonwealth Statistician in each State, and are derived mainly from local government sources.

ALL ROADS OPEN FOR GENERAL TRAFFIC LENGTHS, STATES AND TERRITORIES, 30 JUNE 1979

(Kilometres)

<i>Surface of roads</i>	<i>N.S.W.(a)(b)</i>	<i>Vic.(b)</i>	<i>Qld(b)</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.(b)</i>	<i>N.T.(b)</i>	<i>A.C.T.(b)</i>	<i>Total(a)</i>
Bitumen or concrete	70,277	58,691	44,121	18,088	32,593	7,381	4,975	1,788	237,914
Gravel, crushed stone or other improved surface	66,616	45,353	28,981	21,093	39,214	14,097	1,872	352	217,578
Formed only	39,188	27,380	60,193	24,213	46,126	749	6,143	42	356,637
Cleared only	13,092	25,277	29,050	37,024	40,788		7,372	-	
Total	189,173	156,701	162,345	100,418	158,721	22,227	20,362	2,182	812,129

(a) Excludes 15,397 kilometres of road dedicated but not trafficable.

(b) Figures as at 30 June 1978. Figures as at 30 June 1979 are not yet available.

Expenditure on roads and bridges

Primary responsibility for the construction and maintenance of roads and bridges rests with State and local authorities. For detailed information see the individual State Year Books.

* Includes bridges.

National Association of Australian State Road Authorities

The National Association of Australian State Road Authorities (NAASRA) was established in 1934. The present member authorities are: Department of Main Roads, New South Wales; Country Roads Board, Victoria; Main Roads Department, Queensland; Highways Department, South Australia; Main Roads Department, Western Australia; Department of Main Roads, Tasmania; Northern Territory Department of Transport and Works; Commonwealth Department of Housing and Construction.

The Association's objectives are to provide a central organisation where, by co-operative effort, a uniform approach to the improvement, planning and development of the Australian road system can be achieved. National standards for road and bridge construction and maintenance and improved administrative and financial control methods are developed by committees of experienced staff from the authorities, with secretarial services provided by a small staff located in Sydney.

This Secretariat arranges publication of the policies and standards which are widely used by road authorities, local government and universities; co-operates with the Standards Association of Australia on the preparation of national codes of practice; and acts as an Australian centre for contact with overseas road bodies and for the circulation of standards published by them.

Road research is a continuing concern, and in 1959 the Association decided to set up and finance a separate national centre to conduct road research on behalf of its members. The Australian Road Research Board (ARRB) was duly established in 1960 as a company controlled by a Board consisting of the NAASRA members.

The Association regularly confers with the Commonwealth Department of Transport, the Bureau of Transport Economics and the Australian Transport Advisory Council on major road policies. As part of the Commonwealth Government's external aid program and in conjunction with the Department of Foreign Affairs, member authorities of the Association conduct engineering training courses for experienced engineers from African and Asian countries.

The Association is a member of the Permanent International Association of Road Congresses (PIARC) and of the Road Engineering Association of Asia and Australasia (REAAA).

Australian Road Research Board

The Australian Road Research Board (ARRB) is a non-profit-making company founded in 1960 by the National Association of Australian State Road Authorities (NAASRA), and now located at Vermont in Victoria. It is financed by Federal and State Government Road Authorities whose permanent heads make up ARRB's Board of Directors. The Executive Director, a full-time employee and member of the Board, is responsible for administering the Directors' policies.

The ARRB regularly undertakes and sponsors road and road transport research over a comprehensive range of subjects and disseminates results to appropriate organisations, engineers and scientists involved in the design, location, construction, upkeep and use of roads. In selecting and monitoring its research projects, and developing a longer term research plan, ARRB is assisted by a senior advisory Steering Committee and four Technical Committees in the areas of Road Technology, Road Users, Road Transport and Local Government, the members of which are experts drawn from government, commerce and education.

ARRB disseminates road research information through its major biennial conferences, first held in 1962, and regular symposia, seminars and workshops, and through its publications which include the *Conference Proceedings*, symposium and workshop papers, a quarterly journal *Australian Road Research* and various reports and technical manuals arising out of its many research projects. ARRB also maintains a unique library of road literature and operates an expanding computer-based information service called Australian Road Index (ARI) which collects and collates all Australian road research findings. It also acts as the Australian member of the International Road Research Documentation (IRRD) system. Both ARI and IRRD information is available to members of AUSINET, the Australian Computer network for information exchange and retrieval. ARRB also maintains close contacts with international road research bodies.

AIR TRANSPORT

Department of Transport

Commonwealth control of air transport in Australia is exercised by the Department of Transport. The Department's jurisdiction covers Australia and areas of the Indian and Pacific Oceans. Details about air transport control and operations are given in the annual reports to the Commonwealth Parliament by the Minister for Transport.

International activity

International organisations. The International Civil Aviation Organization (ICAO) had a membership of 146 nations in June 1980. Australia has continued its position as a member of the Council, which it has held since ICAO was established in 1947.

International agreements. Australia had air service agreements in force with twenty-six countries at 30 June 1980. Under these agreements Australia is granted rights to operate services between Australia to and through the countries in question; these rights are exercised by Australia's international airline Qantas. In return, the designated airlines of the other countries which are partners to these agreements are granted traffic rights in Australia. Australia also had air service arrangements granting traffic rights with four other countries at 30 June 1980.

International air services. At 30 June 1980, twenty-three overseas international airlines were operating regular scheduled air services to Australia. These were: Air-India (India), Air Nauru (Nauru), Air New Zealand (New Zealand), Air Niugini (Papua-New Guinea), Air Pacific (Fiji), Alitalia (Italy), British Airways Overseas Division (Britain), Canadian Pacific Air Lines (Canada), Cathay Pacific (Hong Kong), Continental Airlines (United States of America), Deutsche Lufthansa (Federal Republic of Germany), Garuda (Indonesia), Japan Air Lines (Japan), Yugoslovski Aerotransport (Yugoslavia), KLM Royal Dutch Airlines (Netherlands), Singapore International Airlines (Singapore), Merpati Nusantara Airlines (Indonesia), Pan American World Airways (United States of America), Philippines Air Lines (Philippines), South African Airways (Republic of South Africa), Thai International (Thailand), Malaysian Airways (Malaysia), and Union de Transport Aeriens (France). Qantas, Australia's international airline, operates a fleet of aircraft of which one is a Hawker Siddeley 125, and nineteen are Boeing 747 jet aircraft. All shares in Qantas Airways Limited are owned by the Commonwealth Government.

International operations. The table following shows particulars of international airline traffic during 1979-1980 moving into and out of an area which embraces Australia and Norfolk Island. These figures do not include traffic between Australia and Norfolk Island.

**AIR TRANSPORT: INTERNATIONAL AIRLINE TRAFFIC TO AND FROM
AUSTRALIA(a), 1979-80**

Type of traffic	Number of			Freight	Mail
	flights	Passengers			
Traffic to Australia—					
Qantas Airways Limited	3,530	919,075		26,560	929
Other airlines	6,722	1,140,375		43,054	5,141
All airlines	10,252	2,059,450		69,614	6,070
Traffic from Australia—					
Qantas Airways Limited	3,525	864,161		19,507	2,585
Other airlines	6,700	1,095,705		32,863	1,218
All airlines	10,225	1,959,866		52,370	3,803

(a) Australian mainland and Norfolk Island.

Statistics covering the operations of Australia's regular overseas services are shown in the following table. These operations include all stages of Qantas flights linking Australia with overseas countries.

AIR TRANSPORT: OPERATIONS OF AUSTRALIA'S REGULAR OVERSEAS SERVICES

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79p
Hours flown number	90,293	86,231	85,839	79,499	77,539	70,977
Kilometres flown '000	69,062	65,045	65,221	61,586	65,625	61,959
Passengers—						
Embarkations number	1,295,457	1,418,541	1,488,858	1,551,679	1,569,374	1,782,673
Passenger-kilometres '000	8,653,357	9,434,345	10,541,870	11,318,928	12,029,554	14,317,936
Freight—						
Tonnes uplifted tonnes	27,328	29,974	33,417	34,380	39,986	49,409
Tonne-kilometres '000	195,078	213,748	243,911	258,748	301,253	373,534
Mail—						
Tonnes uplifted tonnes	2,912	2,950	2,997	3,205	2,971	3,238
Tonne-kilometres '000	25,071	24,043	26,217	27,788	27,618	32,019

Regular air services within Australia

Interstate services. The majority of scheduled interstate services with passenger and all-freight aircraft are provided by two airlines only: the private enterprise airline Ansett Airlines of Australia (a division of Ansett Transport Industries (Operations) Pty Ltd, which is a subsidiary of Ansett Transport Industries Ltd); and the Commonwealth Government, Australian National Airlines Commission trading as Trans-Australia Airlines (TAA). All principal routes are competitive, with both airlines providing equal capacities in accordance with legislation passed by the Commonwealth Parliament. The two principal Acts which establish the legislative basis of this competition are the *Airlines Agreements Act 1952* and the *Airlines Equipment Act 1958*. The Airlines Equipment Act established the machinery for the achievement and maintenance of comparable, but not necessarily identical, aircraft fleets between TAA and Ansett Airlines of Australia, and was designed to prevent the provision of excess aircraft capacity. The Airlines Agreement Act established the basis of control of the two-airline competitive system. In addition to purely interstate services, both Ansett Airlines of Australia and Trans-Australia Airlines operate intrastate routes, most of which are non-competitive.

At 30 June 1980, the Ansett Airlines of Australia fleet included eleven Boeing 727s, twelve DC-9s, eleven Friendships, three Electra freighters and three helicopters. At the same date, Trans-Australia Airlines operated a fleet of eleven Boeing 727s, twelve DC-9s, twelve Friendships and four Twin Otter DHC-6s.

Intrastate services. In addition to the intrastate services operated by Ansett Airlines of Australia and Trans-Australia Airlines there are a number of smaller regional airlines operating from Sydney (Ansett Airlines of New South Wales and East-West Airlines), Adelaide (Ansett Airlines of South Australia), Perth (MacRobertson Miller Airlines), and Darwin (Northern Airlines). With the exception of Northern Airlines, which provides regular service to outback homesteads and communities, all of these are concerned primarily with traffic moving to and from their respective capital cities. Except for the independently-owned East-West Airlines and Northern Airlines, all regional airlines are divisions of Ansett Transport Industries (Operations) Pty Ltd. The larger aircraft used by these regional airlines are F28 Fellowships and F27 Friendships.

Commuter services. These are regular public transport flights by charter firms with small single and twin-engined aircraft operating to fixed and published timetables. They are not airline services and primarily provide air links between towns and country areas which are not served by the major airlines. At 30 June 1980 forty-five charter operators were operating commuter services in Australia. Details of the operations of these commuter services are excluded from the statistics shown in this section.

Scheduled domestic airline services. Statistics of all regular airline services are set out in the following table.

AIR TRANSPORT: OPERATIONS OF REGULAR INTERNAL SERVICES, AUSTRALIA(a)

		1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Hours flown	number	281,611	282,706	270,928	258,151	279,410	280,601
Kilometres flown	'000	131,829	135,455	130,100	122,933	134,720	135,532
Passengers—							
Embarkations	number	8,857,654	9,393,104	9,315,141	9,348,697	10,288,959	10,724,531
Passenger-kilometres	'000	6,812,300	7,374,126	7,280,993	7,329,665	8,181,028	8,619,601
Freight—							
Tonnes uplifted	tonnes	112,654	107,813	106,061	108,108	120,890	127,530
Tonne-kilometres	'000	98,294	97,914	97,499	96,315	106,471	110,745
Mail—							
Tonnes uplifted	tonnes	9,916	9,613	9,708	9,636	11,307	13,126
Tonne-kilometres	'000	9,272	9,023	9,113	9,148	10,726	12,518

(a) Includes flights of all Australian-owned airlines, with the exception of those of Qantas Airways Limited, between airports located within Australia. The domestic carrier, East-West Airlines, commenced services between Australia and Norfolk Island in March 1977 and particulars of these flights are included from that time. Prior to March 1977, Australia-Norfolk Island flights were serviced by Qantas and details of those flights were included with statistics of regular overseas services.

Internal airline passenger embarkation and disembarkation. The statistics set out in the next table have been compiled by aggregating all internal airline passenger traffic loaded and unloaded at each airport. They include passengers on flights between Australia and Norfolk Island. At ports where through-passengers transfer between flights, such passengers are counted as embarking as well as disembarking passengers.

INTERNAL AIRWAYS PASSENGER EMBARKATIONS AND DISEMBARKATIONS AT PRINCIPAL AUSTRALIAN AIRPORTS

<i>Airport</i>	<i>1973-74</i>	<i>1974-75</i>	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>
Sydney	4,679,513	4,953,051	4,788,086	4,846,610	5,273,436	5,539,290
Melbourne	3,876,877	4,037,585	4,125,932	4,149,390	4,552,462	4,743,757
Brisbane	2,078,812	2,218,780	2,119,538	2,075,381	2,252,888	2,282,641
Adelaide	1,374,645	1,494,675	1,454,917	1,618,299	1,729,030	1,801,084
Canberra	934,069	981,815	901,837	881,668	966,388	949,882
Perth	646,699	696,527	629,530	704,041	792,873	830,273
Hobart	382,636	375,769	403,759	403,069	437,948	455,577
Townsville	315,782	320,153	329,831	322,498	353,522	363,285
Coolangatta	278,044	300,854	314,780	320,606	409,151	457,789
Launceston	294,694	287,741	304,784	309,341	353,596	387,456
Cairns	251,847	266,620	275,439	270,147	307,525	345,344
Mackay	196,951	213,972	249,196	244,025	254,954	253,229
Darwin	182,319	241,003	208,806	200,833	225,052	249,056

General aviation activity, which covers all flying other than scheduled airline operations has grown rapidly throughout Australia in recent years and is an important sector of the Australian aviation industry. Hours flown by general aviation during 1979-80 were estimated at 1.72 million, approximately 5.9 per cent more than the previous year.

Aerodromes

The number of aerodromes throughout Australia and its external territories at 30 June 1980 was 435. Eighty-one were owned by the Commonwealth Government and 355 by local authorities and private interests. The number of licensed heliports throughout Australia and its territories is 5. Capital expenditure on aerodrome and building construction was \$7.9 million in 1979-80. Maintenance expenditure on Commonwealth Government-owned aerodromes during 1979-80 was \$6.7 million, and development and maintenance grants to licensed aerodromes participating in the Local Ownership Plan totalled \$4.0 million.

Airway facilities

A total of 458 navigational aids were in service at 30 June 1980. The total includes 248 non-directional beacons (NDB) (includes 221 standard NDB's and 27 locators), 107 distance measuring equipment (DME), 11 international distance measuring equipment (DMEI), 2 visual-aural ranges (VAR), 72 VHF omni-directional ranges (VOR), 17 instrument landing systems (ILS) and one twin locator approach system.

One hundred and fifty-five aerodromes are now equipped with night landing facilities. Eighty-seven Australian-designed 'T' systems (T-VASIS) are operating. Seven long-range surveillance radars, two short range and seven secondary surveillance radars (seven civil, two military) are also in operation. There are twenty-eight fully-equipped Air Traffic Control Centres and forty-three flight service units in operation.

Air transport registrations, licences, etc., in force in Australia

At 30 June 1980 there were 6,292 aircraft registered in Australia. At the same time there were also 52,538 pilots' licences in force, of which 23,463 were private pilots' licences, 4,676 commercial pilots' licences, 1,383 senior commercial pilots' licences, 2,201 air transport pilots' licences, and 20,815 student pilots' licences. Flight radio-telephone operators' licences numbered 32,966.

Accidents and casualties

AIR TRANSPORT: ACCIDENTS INVOLVING CASUALTIES(a), AUSTRALIA(b)

	<i>1974-75</i>	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>
Number	24	32	33	47	43	49
Persons killed	25	54	39	58	42	52
Persons seriously injured	16	24	24	27	37	44

(a) Accidents involving civil aircraft which resulted in death or serious injury. Excludes parachutists killed on contact with earth after an uninterrupted fall. (b) Excludes accidents outside Australia involving aircraft on the Australian register; includes all accidents to overseas registered aircraft that occur in Australia.

POSTAL, TELECOMMUNICATION AND RADIOCOMMUNICATION SERVICES

In this section, particulars for the Australian Capital Territory are included with those for New South Wales, and the South Australian figures include particulars for the Northern Territory, unless otherwise indicated. The Central Offices of the Postal and Telecommunications Department are located in Canberra, Melbourne and Sydney.

Postal and Telecommunications Department

The Postal and Telecommunications Department was created on 22 December 1975. It replaced the Postmaster-General's Department, assuming those PMG functions remaining after the formation of the Postal and Telecommunications Commissions on 1 July 1975. A major activity of the Department is the administration of the *Wireless Telegraphy Act* 1905 which concerns the regulation and management of the radio frequency spectrum for radiocommunications within the Commonwealth and its Territories.

The Department undertakes, also, planning for the development of broadcasting and television services in Australia and the determination of standards and practices for technical equipment used in broadcasting and television services for which formal responsibility attaches to the Minister for Post and Telecommunications pursuant to the provisions of the Broadcasting and Television Act.

Another function of the Department is to provide policy advice to the Minister on postal, telegraphic, telephonic, broadcasting and other like services which are subject to legislation for which the Minister for Post and Telecommunications is responsible.

Authorities responsible to the Minister for Post and Telecommunications have been established to provide within Australia a network of facilities which enable people and organisations:

- to send letters, printed matter, parcels and money in Australia and overseas and to receive such items within Australia from overseas;
- to converse by telephone in Australia and overseas;
- to send and receive written messages, data pictures and other visual matter by electrical means within Australia and to and from overseas;
- to relay on the telecommunications network, radio and television broadcasts emanating within Australia and those on relay to and from overseas.

Australian Postal Commission

The Australian Postal Commission was established under the *Postal Services Act* 1975. It commenced operations on 1 July 1975 and trades under the name Australia Post.

The establishment of the Australian Postal Commission was accompanied by a complete reorganisation of the management of postal services in Australia. The Commission was given a charter to improve postal services whilst avoiding the large financial losses of previous years. The Postal Services Act sets specific financial objectives for the Commission, which are designed to enable postal services to be operated on a business-oriented basis.

In accordance with the *Postal Services Act* 1975, the Australian Postal Commission is required to pursue, as far as practicable, a financial policy to secure revenue sufficient to meet all expenditure chargeable to revenue and provide at least half of its capital expenditure.

Since 1 July 1975, Australia Post has taken a number of initiatives to develop new services and maintain existing ones while at the same time maintaining competitive pricing. The initiatives include:

- the introduction of Australia Post Courier services
- the introduction of reduced rate and discount mail services for bulk lodgements of mail
- the introduction of a concessional rate for domestic Christmas greeting cards
- the introduction of a new postal Money Order Service
- the revision of the Registered Publications Service
- the introduction of an overnight parcels service between all capital cities, and
- a new policy for rural and remote mail deliveries which provides for a minimum of twice weekly delivery wherever practicable.

In order to improve services further, the Commission has undertaken a program to decentralise the mail sorting and distribution network. The program involves the establishment of regional mail sorting centres in country and suburban areas and, to date, mail network plans have been approved for New South Wales, Victoria and Queensland. Decentralised mail handling centres are already operating in those States, and the implementation of the decentralised network in Victoria has been completed.

The following tables indicate Australia Post's financial results, services and operations for 1979-80. Selected tables also show figures for earlier periods.

AUSTRALIAN POSTAL COMMISSION: REVENUE AND EXPENDITURE, 1975 TO 1980
(\\$'000)

<i>Year ended 30 June—</i>	<i>1975(a)</i>	<i>1976</i>	<i>1977</i>	<i>1978</i>	<i>1979</i>	<i>1980</i>
Revenue—						
Mail services	274,073	402,221	435,790	456,739	528,978	582,200
Money order, postal order services	5,653	7,481	6,881	6,242	5,434	6,350
Commission on agency services	13,207	85,892	101,739	95,636	93,171	82,189
Other revenue	9,055	10,044	17,186	20,110	18,907	19,442
Total	301,988	505,638	561,596	578,727	646,490	690,187
Expenditure—						
Operating and general	262,006	354,995	395,675	426,100	476,915	530,875
Transportation	42,214	46,723	50,168	55,343	44,842	52,744
Depreciation, superannuation, long-service leave, interest	62,364	72,258	86,854	95,217	102,144	94,876
Total	366,584	473,976	532,697	576,660	623,901	678,495

(a) Figures not comparable with years after 1975 due mainly to changes in accounting for work done at post offices for Telecom Australia.
NOTE: Prior to 1 July 1975, postal services were operated by the Postmaster-General's Department.

AUSTRALIAN POSTAL COMMISSION: STATEMENT OF REVENUE AND EXPENDITURE FOR THE YEAR ENDED 30 JUNE 1980
(\\$'000)

Revenue—	
Mail services	582,200
Postal order and money order services	6,350
Commission on agency services	82,189
Other revenue	19,442
Total	690,181
Expenditure—	
Operating and general	530,875
Transportation	52,744
Depreciation	11,934
Superannuation	59,600
Long Service Leave	20,588
Interest	2,854
Total	678,595
Accumulated surplus available for appropriation—	
Operating surplus	11,686
Accumulated surplus brought forward	22,589
Total	34,275
Appropriation—	
For Capital Financing	22,589
Total	22,589
Accumulated surplus carried forward	11,686

AUSTRALIAN POSTAL COMMISSION: SUMMARY OF TRANSACTIONS AFFECTING FIXED ASSETS, 1979-1980
(\\$)

<i>Class of asset</i>	<i>Value at 1 July 1979</i>	<i>Additions in the year</i>	<i>Asset expenditure written out</i>	<i>Value at 30 June 1980 (a)</i>
Land	24,267,263	7,088,570	1,097,642	30,258,191
Buildings	177,911,214	10,221,145	1,100,946	187,031,413
Motor vehicles	12,498,860	8,668,971	5,275,782	15,892,049
Plant	35,568,773	3,213,612	2,282,600	36,499,785
Equipment	18,292,310	3,173,271	628,718	20,836,863
Total value of fixed assets	268,538,420	32,365,569	10,385,688	290,518,301
Less depreciation				59,479,305
Net book value of fixed assets				231,038,996

(a) At cost.

**AUSTRALIAN POSTAL COMMISSION: ANALYSIS OF TRANSACTIONS
AFFECTING THE PROVISION FOR DEPRECIATION, 1979-80**

(\$)

<i>Class of asset</i>	<i>Balance of provision at 1 July 1979</i>	<i>Depreciation provided for in 1979-80</i>	<i>Asset expenditure written out</i>	<i>Balance of provision at 30 June 1980</i>
Buildings	31,690,814	3,422,153	584,929	34,528,038
Motor vehicles	4,752,918	4,166,286	5,275,782	3,463,422
Plant	14,381,512	2,950,340	2,282,600	15,049,252
Equipment	5,672,476	1,394,835	628,718	6,438,593
Total value of provision	56,497,720	11,933,614	8,772,029	59,479,305

**AUSTRALIAN POSTAL COMMISSION: PERSONS ENGAGED IN PROVIDING POSTAL SERVICES AT
30 JUNE 1979 AND 1980**

	<i>H.Q.</i>	<i>N.S.W. (Incl. A.C.T.)</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A. (Incl. N.T.)</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust. 1980</i>	<i>Aust. 1979</i>
Full time official staff (a)—									
Permanent	572	9,650	6,546	3,729	2,663	2,210	667	26,037	24,728
Temporary	11	3,155	2,043	428	182	188	122	6,129	6,807
Other staff (b)	—	3,157	1,817	1,628	923	703	407	8,635	9,018
Total	583	15,962	10,406	5,785	3,768	3,101	1,196	40,801	40,553

(a) 'Official Staff' are those whose employment is governed by the *Postal Services Act* 1975. (b) Includes persons who are not employed under the *Postal Services Act*, but who are employed on the basis of business transacted. Also included are persons or organisations who hold road mail service contracts with the Australian Postal Commission.

**AUSTRALIAN POSTAL COMMISSION: MAIL DELIVERY NETWORK AND POST OFFICES AT 30
JUNE 1979 AND 1980**

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust. 1980</i>	<i>Aust. 1979</i>
Contract road services	1,710	786	1,029	291	404	185	4,405	4,506
Households receiving mail	1,752,572	1,277,804	693,420	464,116	417,209	133,310	4,738,431	4,662,738
Businesses receiving mail	156,863	110,297	69,938	39,061	38,855	11,132	426,146	417,655
Post Offices—								
Official—								
At 1 July 1979	508	332	225	166	160	42	1,433	1,447
At 30 June 1980	508	330	222	164	161	42	1,427	1,433
Non-official—								
At 1 July 1979	1,241	970	597	535	365	207	3,915	4,124
At 30 June 1980	1,184	938	577	506	335	202	3,742	3,915
Total post offices	1,692	1,268	799	670	496	244	5,169	5,348

**AUSTRALIAN POSTAL COMMISSION: TOTAL POSTAL ARTICLES HANDLED
('000)**

<i>Year ended 30 June</i>	<i>Posted for delivery within Australia</i>	<i>Posted for places abroad</i>	<i>Received from abroad</i>	<i>Total postal articles handled</i>	<i>Mail carried on domestic air services (included in total handled)</i>	<i>Gross weight</i>
					<i>Articles</i>	<i>kilograms</i>
1975	2,284,954	90,842	140,176	2,515,972	495,725	6,430,717
1976	1,992,397	79,755	136,394	2,208,546	431,328	5,594,724
1977	1,975,417	82,158	140,802	2,198,377	496,470	6,448,310
1978	2,072,239	81,907	149,393	2,303,539	516,330	6,706,242
1979	(a) 2,267,596	(a) 87,757	149,278	2,504,631	661,352	8,590,967
1980	2,379,953	94,826	156,573	2,631,352	769,391	9,994,392

(a) Estimating methods were refined in 1980 and volumes for 1979 have been reassessed on a comparable basis.

AUSTRALIAN POSTAL COMMISSION: ORDINARY POSTAL ARTICLES(a)
(^{'000})

<i>Year ended 30 June</i>	<i>Standard letters(b)</i>				<i>Non-standard articles(b)</i>			
	<i>Posted for delivery within Australia</i>	<i>Posted for places abroad</i>	<i>Received from abroad</i>	<i>Total articles</i>	<i>Posted for delivery within Australia</i>	<i>Posted for places abroad</i>	<i>Received from abroad</i>	<i>Total articles</i>
1978	1,774,372	67,846	110,222	1,952,440	276,511	11,571	34,379	322,461
1979	(c) 1,950,740	(c) 73,332	108,923	(c) 2,132,995	(c) 293,926	11,966	35,547	(c) 341,439
1980	2,033,092	79,414	112,093	2,224,599	320,803	12,769	39,847	373,419

STATES—YEAR ENDED 30 JUNE 1980

New South Wales	804,074	31,260	53,968	889,302	137,469	5,761	16,370	159,600
Victoria	552,401	24,856	38,708	615,965	99,298	4,613	14,874	118,785
Queensland	288,307	7,042	6,252	301,601	34,178	1,123	4,703	40,004
South Australia	177,539	8,710	5,913	192,162	20,067	332	1,442	21,841
Western Australia	157,217	7,198	7,252	171,667	18,861	908	2,458	22,227
Tasmania	53,554	348	..	53,902	10,930	32	..	10,962

(a) Includes Certified, Messenger Delivery and Priority Paid Mail. (b) New categories of mail introduced from 1 October 1974. (c) Estimating methods were refined in 1980 and volumes for 1979 have been reassessed on a comparable basis.

AUSTRALIAN POSTAL COMMISSION: REGISTERED ARTICLES(a) AND PARCELS
(^{'000})

<i>Year ended 30 June</i>	<i>Registered articles</i>				<i>Parcels</i>			
	<i>Posted for delivery in Australia</i>	<i>Posted for places abroad</i>	<i>Received from abroad</i>	<i>Total articles</i>	<i>Posted for delivery in Australia</i>	<i>Posted for places abroad</i>	<i>Received from abroad</i>	<i>Total articles</i>
1975	6,256	2,113	2,797	11,166	20,419	1,002	1,939	23,360
1976	3,877	1,533	2,807	8,217	15,300	1,050	1,950	18,300
1977	3,370	1,375	2,696	7,441	16,900	1,030	1,970	19,900
1978	3,122	1,422	2,794	7,338	18,234	1,068	1,998	21,300
1979	(b) 3,092	1,371	2,790	(b) 7,253	(b) 19,838	1,088	2,018	(b) 22,944
1980	3,107	1,451	2,758	7,316	22,951	1,192	1,875	26,018

STATES—YEAR ENDED 30 JUNE 1980

New South Wales	1,056	763	1,783	3,602	9,382	490	696	10,568
Victoria	778	474	806	2,058	6,374	426	701	7,501
Queensland	567	63	44	674	3,418	98	224	3,740
South Australia	324	67	26	417	1,812	78	90	1,980
Western Australia	265	82	99	446	1,529	92	144	1,765
Tasmania	117	2	..	119	436	8	20	464

(a) Totals include Certified, Messenger Delivery and Priority Paid Mail. (b) Estimating methods were refined in 1980 and volumes for 1979 have been reassessed on a comparable basis.

**AUSTRALIAN POSTAL COMMISSION: SPECIAL SERVICES:
ARTICLES HANDLED**
(^{'000})

<i>Year ended 30 June</i>	<i>Certified mail</i>	<i>Messenger delivery</i>	<i>Priority paid mail(a)</i>
1975	6,288	1,572	1,462
1976	5,424	1,129	1,386
1977	4,927	1,007	1,449
1978	5,473	1,013	1,783
1979	5,056	1,048	2,020
1980	5,780	1,169	2,350

STATES—YEAR ENDED 30 JUNE 1980

New South Wales	1,812	803	1,154
Victoria	1,652	191	550
Queensland	1,052	65	198
South Australia	516	54	233
Western Australia	509	50	135
Tasmania	239	6	80

Telecommunications services within Australia

The Australian Telecommunications Commission commenced operations on 1 July 1975, taking over the telecommunications functions of the former Postmaster-General's Department.

The functions of the Commission as set out in the *Telecommunications Act 1975* are:

- to plan, establish, maintain and operate telecommunications services within Australia;
- to operate such other services as the Commission is authorised by this Act to operate;
- to provide, at the request of the Australian Government, technical assistance outside Australia in relation to the planning, establishment, maintenance and operation of telecommunications services in countries outside Australia; and
- to do anything incidental or conducive to the performance of any of the preceding functions.

Financial results

The following tables show the earnings, expenses and funds situation for the latest three years of the Commission's operations.

AUSTRALIAN TELECOMMUNICATIONS COMMISSION: REVENUE (\$'000)

Year ended 30 June—	1978	1979	1980
Telephone rentals	495,420	533,295	602,655
Telephone calls	1,078,830	1,211,057	1,355,373
Telephone connections and rearrangements	80,719	88,206	102,091
Telegrams	31,303	35,187	32,497
Telex rentals	18,655	21,495	25,644
Telex calls	26,081	24,890	28,936
Other earnings(a)	125,490	130,274	133,613
Total	1,856,499	2,044,404	2,280,810

(a) Major items within this classification are: fees for advertisements in telephone directories, proceeds of sales of fixed assets, telephone service connection fees and telex call fees.

AUSTRALIAN TELECOMMUNICATIONS COMMISSION: EXPENDITURE (\$'000)

Year ended 30 June—	1978	1979	1980
Maintenance of plant	386,723	424,736	576,760
Operating	288,573	307,994	399,873
General and administrative	105,160	137,001	178,739
Accommodation	74,705	85,917	99,382
Depreciation	366,514	410,412	447,383
Superannuation	106,669	118,887	—
Long service leave	25,949	30,849	—
Interest	317,288	338,090	367,127
Total	1,671,580	1,853,884	2,069,264

**AUSTRALIAN TELECOMMUNICATIONS COMMISSION:
FUNDS STATEMENT**

(\$ million)

<i>At 30 June—</i>	<i>1978</i>	<i>1979</i>	<i>1980</i>
Source of funds—			
From the Commonwealth	65.0	—	—
From the public	200.3	177.6	268.6
From trading activities—			
Net trading result	184.9	190.5	211.5
Plus non-cash charges—			
Depreciation	372.3	416.4	454.5
Excess of liability over cash payment for—long service leave superannuation	10.3	15.4	16.4
	—	66.5	44.4
<i>Total</i>	<i>832.8</i>	<i>866.4</i>	<i>995.4</i>
Application of funds—			
Increase in fixed assets and stores holdings	949.5	936.1	998.3
Less non-cash charges capitalised—			
Depreciation	-10.9	-12.2	-13.6
Long service leave liability	-17.1	-16.6	-16.7
Superannuation	—	-61.4	-55.3
Increase in current assets over current liabilities	-108.3	7.1	76.9
Plus transfers from long term liabilities	19.6	13.4	5.8
<i>Total</i>	<i>832.8</i>	<i>866.4</i>	<i>995.4</i>

A brief history of the development of telecommunications in Australia is shown in Year Book No. 59, pages 378-82. Common internal telecommunication operations comprise telephone, telegram, telex and data services. The following tables give details of these services.

TELEPHONE SERVICES IN OPERATION AT 30 JUNE 1980

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Australia</i>
Type of service—							
Ordinary exchange services	1,597,853	1,228,142	568,854	407,632	342,182	114,227	4,258,890
Party line services	2,154	190	1,767	476	300	—	4,887
Private branch exchange	186,577	119,815	49,291	38,457	43,946	8,544	446,630
Public telephones	12,900	6,870	5,305	3,159	2,908	1,113	32,255
Connected to—							
Automatic exchanges	1,768,105	1,344,507	604,066	441,059	387,567	123,884	4,669,188
Manual exchanges	31,379	10,510	21,151	8,665	1,769	—	73,474
Located in—							
Metropolitan local service area	1,088,230	989,977	332,820	337,091	297,191	56,416	3,101,725
Country areas	711,254	365,040	292,397	112,633	92,145	67,468	1,640,937
<i>Total</i>	<i>1,799,484</i>	<i>1,355,017</i>	<i>625,217</i>	<i>449,724</i>	<i>389,336</i>	<i>123,884</i>	<i>4,742,662</i>

TELEPHONE INSTRUMENTS IN SERVICE

<i>At 30 June—</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Australia</i>
1978	2,537,345	1,749,733	735,262	531,475	472,788	154,713	6,181,316
1979	2,714,946	1,909,119	797,906	576,901	514,460	163,244	6,676,576
1980	2,885,117	2,053,799	861,909	621,592	566,831	173,742	7,152,990
Number per 100 population at 30 June	53.8	53.0	38.5	43.5	44.6	41.3	49.1

LOCAL AND TRUNK LINE TELEPHONE CALLS

<i>Year ended 30 June—</i>	<i>1978</i>	<i>1979</i>	<i>1980</i>
Effective paid local calls	4,186,000,000	4,483,000,000	4,786,559,000
Local calls per service	1,037	1,041	1,041
Trunk line calls	462,000,000	523,000,000	589,774,000
Trunk lines calls per service	114	121	129
<i>Total calls</i>	<i>4,648,000,000</i>	<i>5,006,000,000</i>	<i>5,376,333,000</i>

Subscriber Trunk Dialling (STD) facilities were introduced during the year 1961-62. For the year ended at 30 June 1979, 88.8 per cent of trunk calls were made by STD.

Telegrams

Telegrams can be lodged at any post office or telephone office or from any public telephone equipped for multi-coin operation. In addition, telegrams can be dispatched from any subscriber's telephone or telex service. The number of telegrams of various types transmitted within Australia is set out below.

TELEGRAM TRAFFIC

<i>Year ended 30 June—</i>	<i>1978</i>	<i>1979</i>	<i>1980</i>
Ordinary	7,775,779	6,024,376	4,631,985
Urgent	164,497	184,934	153,718
Lettergrams	18,916	(a)6,688	—
Meteorological	635,598	534,482	349,445
Service	371,252	324,286	295,747
Total telegrams	8,966,042	7,074,766	5,430,895

(a) Lettergrams discontinued from 1 October 1978.

Telex

Particulars of the operations of the telex network, which are additional to the telegraph traffic shown above, are as follows.

TELEX NETWORK SERVICES AND INTERNAL CALLS

<i>Year ended 30 June—</i>	<i>Number of services</i>	<i>Internal calls during the year</i>
1978	22,724	32,177,000
1979	25,901	35,797,000
1980	29,731	37,415,000

Further detailed statistics are contained in the Commission's Annual Reports.

International consultation

The OTC participates in the Commonwealth Telecommunications Organisation, the International Telecommunication Union and the International Telecommunications Satellite Organisation (INTELSAT) which has established a global communications satellite system, and the International Maritime Satellite Organisation (INMARSAT), the organisation responsible for the provision of high-grade telephone, telex and data communications with ships at sea on a global basis, including distress and search and rescue communications.

Establishments

The Commission's Head Office is in Sydney and it has offices in Melbourne and Brisbane. The Commission owns and operates International Gateway terminals at Paddington and Broadway in Sydney which interface with the national telecommunications network; cable stations at Cairns (Qld) and at Guam in the Mariana Islands; satellite earth stations at Carnarvon (W.A.), Ceduna (S.A.) and Moree (N.S.W.) which provide more than half of Australia's telecommunications links; international radio stations at Doonside and Bringelly (N.S.W.) and at Gngara (W.A.); and fifteen coast radio stations at points around the Australian coast and at Norfolk Island for communicating with ships at sea.

Submarine cables

The OTC is a part owner of the following submarine cables (the year in which they opened for service is in brackets): COMPAC, Sydney-Auckland-Suva-Hawaii-Vancouver (1963); SEACOM, Sydney-Madang-Guam-Hong Kong-Kota Kinabula (Malaysia)-Singapore (1967); TRANSPAC II, Hawaii-Guam-Okinawa (1975); HAW III, Hawaii-U.S. Mainland (1975); TASMAN, Sydney-Auckland (1976); A-PNG, Sydney-Port Moresby (1976); OLUHO, Okinawa (Japan)-Philippines-Hong Kong (1977) and ASEAN P-S, Philippines-Singapore (1978). The OTC will be a major participant in the construction of the ANZCAN Pacific cable (scheduled for service in 1983/84), Sydney-Norfolk Island-Fiji-Hawaii-Vancouver.

Satellites

OTC is a shareholder in INTELSAT which operates communication satellites over the Indian, Pacific and Atlantic Oceans, and in INMARSAT (see above).

1979-80 Statistics

As at March 1980, OTC staff totalled 2,203, revenue for the previous 12 months was approximately \$176 million and profit after extraordinary items and tax was \$31.5 million. Telephone revenue, which was available to 211 overseas destinations, together with telex, accounted for 84.5 per cent of total revenue. International Subscriber Dialling (ISD), by which the customer can dial his or her own overseas telephone calls, is now available to nearly 90 destinations. Over 99 per cent of overseas telex calls from Australia are now automatically subscriber connected.

Facilities to match growth

The high growth in demand for the Commission's services requires that the capacity of its major transmission and switching plant be at least doubled every three years. The OTC is applying computer techniques extensively in a number of its services, including telephone, telex, MIDAS (multimode international data acquisition service) and INTERPLEX (private message-switched networks).

Charges

The Commission again made reductions in charges for a number of its services in October 1980—and in the telephone services in December 1980. Some telegram tariffs and other minor charges were increased in October 1980.

Detailed information on OTC

The Commission reports on its operations to Parliament through its Minister about September each year. Traffic, financial and other information is contained in its Annual Report, copies of which are available on request to the OTC.

International telecommunication traffic

The following table shows particulars of overseas telecommunication traffic between Australia and overseas countries for the years ended 31 March 1979 and 1980.

INTERNATIONAL TELECOMMUNICATION SERVICES: YEARS ENDED 31 MARCH 1979 AND 1980

Service		Transmissions					
		From Australia		To Australia		Total	
		1978-79	1979-80	1978-79	1979-80	1978-79	1979-80
Telephone	'000 paid minutes	46,627	62,389	39,327	51,800	85,954	114,189
Telex	'000 paid minutes	13,825	16,795	14,319	16,950	28,144	33,745
Television programs	paid minutes	6,900	8,637	12,688	18,123	19,588	26,760
Telegraph services	'000 words	56,223	54,801	41,554	38,695	97,777	93,496

Coastal stations

The Overseas Telecommunications Commission operates fourteen coastal radio stations at points around the Australian coast, and one at Norfolk Island. During the year ended 31 March 1980 the coastal radio service handled 7,289,000 paid words to ships and 5,323,000 words from ships. Ship calls over the radiotelephone service extended over 350,000 paid minutes.

Radiocommunication stations authorised

At 30 June 1978 there were 460,171 civil radiocommunication stations authorised for operation in Australia and its Territories. Of these, 6,316 were stations established at fixed locations, 24,000 were land stations which were established at fixed locations for communication with mobile stations, 13 were space and broadcasting stations, 420,442 were mobile stations and 9,400 were amateur stations. Particulars of broadcasting stations are shown on page 510.

BROADCASTING AND TELEVISION

Radio and television broadcasting falls within the jurisdiction of the Commonwealth Government and, pursuant to the *Broadcasting and Television Act 1942*, is one of the responsibilities of the Minister for Post and Telecommunications. Federal bodies which are involved include the Postal and

Telecommunications Department, the Australian Broadcasting Commission (ABC), the Special Broadcasting Service, the Australian Broadcasting Tribunal, the Australian Telecommunications Commission and the Overseas Telecommunications Commission.

Basically, the Australian broadcasting system is comprised of the following types of stations:

- national radio and television stations broadcasting programs produced by the Australian Broadcasting Commission;
- commercial radio stations operated by companies under licence;
- public radio and television stations operated by corporations under licence on a non-profit basis; and
- stations operated under the aegis of the Special Broadcasting Service.

As from 1 January 1977, the Minister for Post and Telecommunications assumed the responsibility for broadcasting planning, including all matters relating to the technical operation of stations, and for the investigation of interference to the transmission and reception of programs.

The Commercial Radio and Television Service

Commercial radio and television stations are operated by companies under licences granted by the Australian Broadcasting Tribunal and with technical operating conditions determined by the Minister for Postal and Telecommunications. The stations obtain income from the broadcasting of advertisements. At 30 June 1980 there were 128 commercial radio stations in operation in Australia. Call signs for radio stations are prefixed by numerals indicating each State of Australia. (2—New South Wales, 3—Victoria, 4—Queensland, 5—South Australia, 6—Western Australia, 7—Tasmania, 8—Northern Territory). In addition there were fifty commercial television stations and ninety commercial television translator stations in operation in Australia. A television translator station is a station of low power designed to receive the signals of another station and re-transmit them; it does not originate programs. There are eleven limited coverage repeater stations in Australia operated by mining companies which transmit programs recorded on magnetic tape.

The Public Broadcasting and Television Service

The Broadcasting and Television Act also makes provision for the grant of licences for the operation of public radio and television stations. At 30 June 1980, 26 public radio stations were broadcasting "special purpose" programs ranging from fine music to ethnic languages. A number of public radio stations are associated with tertiary educational institutions.

The Special Broadcasting Service

The Special Broadcasting Service (SBS) was established under the provisions of the *Broadcasting and Television Amendment Act* (1977) and began operation on 1 January 1978. The Service has responsibility for the ethnic radio stations in Sydney and Melbourne, 2EA and 3EA. It also provides subsidies for ethnic broadcasting on public broadcasting stations in capital cities and provincial centres other than Sydney and Melbourne. The SBS also conducts experimental ethnic television programs which are broadcast on the ABC.

The Special Broadcasting Service is empowered to undertake other special broadcasting programs as determined by the Government but at present has responsibility only for ethnic broadcasting. Currently the SBS obtains all revenue from public sources but it is empowered under the Act to fund its operations through sponsorship in a form approved by the Minister.

Broadcasting services

The Australian Broadcasting Tribunal

The Australian Broadcasting Tribunal came into being on 1 January 1977 and is responsible for certain of the functions previously performed by the Australian Broadcasting Control Board (abolished 31 December 1976), including the licensing and supervising of the operations (other than technical aspects) of all stations except national stations. The Tribunal is empowered to grant, renew, suspend or revoke licences, to determine program and advertising standards applicable to licensed stations, and to determine the hours of transmission of licensed stations. In particular, the Tribunal is required to conduct public inquiries into the granting of licences following the invitation of applications by the Minister. The Tribunal may also conduct enquiries into the renewal of licences, the setting of standards of broadcasting practices, alleged breaches of licence conditions and such other matters as the Minister may direct.

The National Broadcasting Service

In sound broadcasting the programs of the National Broadcasting Service are provided by the Australian Broadcasting Commission through transmitters operated by the Australian Telecommunications Commission.

Technical facilities. At 30 June 1980 the National Broadcasting Service comprised 117 transmitting stations, of which ninety-three were medium frequency, five frequency modulation and nineteen high frequency (six internal and thirteen Radio Australia).

The medium-frequency transmitters operate in the broadcast band 530 to 1,590 kilohertz. The high-frequency stations, using frequencies within the band of three to thirty megahertz, provide services to listeners in sparsely populated parts of Australia such as the north-west of Western Australia, the Northern Territory, and northern and central Queensland.

Many of the programs provided by country stations are relayed from the capital cities using high-quality program transmission lines. A number of program channels are utilised to link national broadcasting stations in the capital cities of Australia. When necessary, this system is extended to connect both the national and commercial broadcasting stations.

At 30 June 1980 eighty of the Australian medium-frequency stations were situated outside the six State capital cities.

Program facilities. The programs of the Australian Broadcasting Commission cover a wide range of activities. The proportions of broadcasting time allocated on Radio 1 stations to the various types of program during 1979-80 were as follows: entertainment 58.3 per cent; news 8.4 per cent; sporting 11.4 per cent; spoken word 9.0 per cent; drama and features 1.9 per cent; parliament 8.3 per cent; religious 1.4 per cent; rural 0.5 per cent; and presentation 0.7 per cent. By contrast, the ABC's Radio 2 station's programming was: classical music 5.3 per cent; light music 0.7 per cent; entertainment 3.3 per cent; drama and features 5.9 per cent; young people's programs 0.3 per cent; education 6.0 per cent; spoken word 13.3 per cent; religious 4.7 per cent; news 8.3 per cent; rural 3.3 per cent; and presentation 1.2 per cent. Radio 3 (regional) stations feature a higher proportion of news and rural programs. Further particulars of the operations of the Australian Broadcasting Commission in respect of music, drama and features, youth education, talks, rural broadcasts, news, and other activities are shown in the Forty-eighth Annual Report of the Australian Broadcasting Commission.

Overseas Broadcasting Service

There are nine high-frequency stations at Shepparton, two at Lyndhurst, Victoria and two at Carnarvon, Western Australia which provide the overseas service known as Radio Australia. As in the case of the National Broadcasting Service, these stations are maintained and operated by the Australian Telecommunications Commission, and their programs are arranged by the ABC. The programs, which, as well as entertainment, give news and information about Australia presented objectively, are directed to most parts of the world but with special emphasis on Asia and the Pacific. They include 67 news bulletins a day. The overseas audience has grown very substantially in recent years, as evidenced by a large and increasing number of letters from listeners abroad (566,084 in 1979-80, compared with 412,478 in 1978-79), Radio Australia broadcasts in nine languages—English, Indonesian, Japanese, Neo-Melanesian, Thai, French, Standard Chinese, Cantonese and Vietnamese.

BROADCASTING STATIONS: 30 JUNE 1980

Type of station	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
National—									
Medium frequency	22	6	20	10	19	6	6	2	91
High frequency	1	2	2	—	1	—	—	—	6
Frequency modulation	2	1	1	1	1	2	—	1	9
Overseas—									
Short wave (Radio Australia)	—	11	—	—	2	—	—	—	13
Commercial—									
Medium frequency	42	22	28	9	16	8	2	2	129
Public broadcasting—									
Medium frequency	2	1	—	1	1	—	—	1	(a)6
Frequency modulation	8	4	3	2	2	2	—	—	21

(a) Includes broadcasting stations 2EA and 3EA operated by the Special Broadcasting Service.

Television services

The National Television Service

The National Television Service is provided by the Australian Broadcasting Commission through transmitters operated by the Australian Telecommunications Commission. The first national station (ABN Sydney) commenced regular transmission on 5 November 1956. At 30 June 1980, 174 stations were operating, including eighty-nine translator stations.

The television programs provided by the Australian Broadcasting Commission cover a wide range of activities. The proportions of television time allocated among the ABC's various departments at 30 June 1980 were as follows: drama 18.4 per cent; public interest 13.0 per cent; sporting 17.2 per cent; news 6.8 per cent; variety and acts 5.9 per cent; education 28.0 per cent; musical performance 1.4 per cent; religious 1.1 per cent; special arts and aesthetics 0.9 per cent; cartoons 1.2 per cent; panel and quiz games 0.6 per cent; and presentation 5.5 per cent. The average weekly transmission time for the 174 national television transmitters was eighty-five hours during the year ended 30 June 1980.

During the year ended 30 June 1980, eight new national translator channels went into operation at Ashford and Quirindi in New South Wales; Nambour, Ravenshoe, Nebo, Moranbah/Gooniyella and Dysart in Queensland, and a new UHF translator (the first for ABC-TV) was installed in the Adelaide Hills, South Australia.

Colour television

Colour television (PAL) was introduced in Australia late in 1974 and services became fully effective in March 1975.

TELEVISION AND TRANSLATOR STATIONS: 30 JUNE 1980

Type of station and location	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Total
National—									
Metropolitan television	1	1	1	1	1	1	1	1	8
Country television	13	7	31	6	15	2	3	—	77
Translator	27	10	20	5	11	14	1	1	89
<i>Total, National</i>	<i>41</i>	<i>18</i>	<i>52</i>	<i>12</i>	<i>27</i>	<i>17</i>	<i>5</i>	<i>2</i>	<i>174</i>
Commercial—									
Metropolitan television	3	3	3	3	2	1	1	1	17
Country television	11	6	8	3	4	1	—	—	33
Translator	31	12	23	5	8	16	—	1	96
<i>Total, Commercial</i>	<i>45</i>	<i>21</i>	<i>34</i>	<i>11</i>	<i>14</i>	<i>18</i>	<i>1</i>	<i>2</i>	<i>146</i>

Related publications

More detailed figures and particulars for earlier years are included in the annual publications, *Rail, Bus and Air Transport, Australia* (9201.0), *Commonwealth Government Finance* (5502.0), and *Motor Vehicle Registrations, Australia* (9304.0). Current information on subjects dealt with in this chapter appears in the *Monthly Summary of Statistics, Australia* (1304.0), the *Digest of Current Economic Statistics, Australia* (1305.0), *Overseas and Coastal Shipping, Australia* (annual) (9207.0), *Motor Vehicle Registrations, Australia* (quarterly) (9303.0), one preliminary monthly publication *Registration of New Motor Vehicles, Australia* (9301.0), two quarterly publications *Road Traffic Accidents involving Casualties, Australia* (9403.0) and (9402.0), and the monthly publication, *Road Accident Fatalities, Australia* (9401.0).

Information additional to that contained in ABS publications is available in the annual reports and other statements of the Department of Transport, the various harbour boards and trusts, the several Government railway authorities, the Australian Postal Commission, the Australian Telecommunications Commission, and the Australian Broadcasting Commission.

CHAPTER 21

PRIVATE FINANCE

This chapter contains statistics on the activities and structure of financial institutions including banks, building societies, insurance companies, finance companies, credit unions and co-operative societies together with descriptions of their operations and relevant controlling legislation.

MONEY

Currency

Australia has a decimal system of currency, the unit being the dollar which is divided into 100 cents. Australian notes are issued in the denominations of \$1, \$2, \$5, \$10, \$20 and \$50 and coins in the denominations of 1c, 2c, 5c, 10c, 20c and 50c.

For additional information on note issues and coinage, refer to the List of Special Articles, etc. towards the back of this Year Book.

AUSTRALIAN NOTES IN CIRCULATION (\$ million)

<i>Last Wednesday in June</i>						
	1975	1976	1977	1978	1979	1980
\$1	52.7	53.6	57.4	60.8	64.7	68.6
\$2	129.1	127.8	133.0	136.0	140.6	145.1
\$5	110.2	116.4	121.8	126.7	135.5	143.2
\$10	675.2	655.2	628.8	604.5	582.4	567.6
\$20	1,186.7	1,334.6	1,489.0	1,620.5	1,756.4	1,903.9
\$50	403.2	633.8	860.8	1,121.7	1,427.7	1,757.8
Total	2,557.1	2,921.4	3,290.8	3,670.2	4,107.4	4,586.1
<i>Held by banks</i>	<i>339.9</i>	<i>352.5</i>	<i>378.1</i>	<i>413.1</i>	<i>451.1</i>	<i>500.9</i>
<i>Held by public</i>	<i>2,217.1</i>	<i>2,568.9</i>	<i>2,912.8</i>	<i>3,257.1</i>	<i>3,656.3</i>	<i>4,085.2</i>

AUSTRALIAN DECIMAL COIN: VALUE OF COIN ISSUED (\$ million)

<i>Year ended 30 June</i>						
	1975	1976	1977	1978	1979	1980
1c	1.1	1.4	1.3	1.3	1.1	1.3
2c	1.9	2.1	2.2	2.5	1.8	2.5
5c	3.2	3.3	3.3	2.9	3.6	4.1
10c	4.6	5.6	2.7	3.7	3.7	5.3
20c	7.6	9.9	8.8	8.7	8.0	12.5
50c	7.0	8.3	13.6	13.0	12.1	13.0
Total	25.4	30.5	31.9	32.1	30.3	38.6

Volume of money

Statistics of the volume of money in the following table include notes and coins in the hands of the public, deposits of the public with trading banks (including the Reserve Bank) and deposits with all savings banks.

Conceptually, the volume of money is a measure of specified financial assets held by the non-bank public and, consequently, should exclude deposits of the Commonwealth and State Governments and inter-bank deposits. It has not been possible, however, to exclude government and bank holdings of certificates of deposit or deposits with savings banks.

Financial assets included in the volume of money as defined above represent only part (albeit a major part) of the public's total holdings of liquid financial assets. An expanded view of the volume of money would include the public's holdings of such other claims as finance company debentures, deposits and shares of building societies, loans to authorised dealers in the short-term money market, government securities, etc.

VOLUME OF MONEY

(Source: Reserve Bank of Australia)

(\$ million)

Average of weekly figures for June	Notes and coins in the hands of public	Deposits of public with all trading banks			Deposits with all savings banks(b) (c)	Total volume of money
		Current(a)	Fixed(a)	Certificates of deposit(b)		
1975	2,418	5,971	6,739	1,145	12,656	28,929
1976	2,797	6,775	7,571	1,077	14,651	32,871
1977	3,157	7,220	8,778	978	16,197	36,331
1978	3,542	7,724	9,314	812	17,854	39,246
1979	3,963	9,183	10,449	620	19,654	43,869
1980	4,420	10,426	10,243	3,363	21,061	49,513

(a) Excludes deposits of the Commonwealth and State Governments and inter-bank deposits. (b) Includes holdings of the Commonwealth and State Governments and banks. (c) Interpolated 'weekly average' based on end-of-month figures.

FINANCIAL REGULATION

Commonwealth legislation for economic management

With Federation in 1901 the new Commonwealth Parliament was given power under Section 51 of the Commonwealth Constitution to legislate with respect to 'Banking, other than State Banking, also State Banking extending beyond the limits of the State concerned, the incorporation of banks, and the issue of paper money'. In 1911 the Commonwealth entered the field of banking with the establishment of the Commonwealth Bank of Australia, which conducted both trading bank and savings bank operations.

From 1911 to 1945 the functions of central banking became more and more the responsibility of the Commonwealth Bank and in 1945 the Commonwealth Parliament directed it to act as a central bank. In the ensuing period of economic growth and financial development, the need for effective regulatory control of finance through banks became increasingly recognised. During 1959 the Commonwealth Parliament enacted the following legislation:

- (a) The *Banking Act* 1959 which applies to all banks operating in Australia, including the external territories of the Commonwealth, except State banks trading in their own State. The objects of the Act are:
 - (i) to provide a legal framework uniform throughout Australia for regulating the banking system;
 - (ii) to safeguard depositors of the banks from loss;
 - (iii) to provide for the co-ordination of banking policy under the direction of the Reserve Bank;
 - (iv) to control the volume of credit in circulation and bank interest rates; and
 - (v) to provide machinery for the control of foreign exchange.
- (b) The *Reserve Bank Act* 1959 which provides for the constitution and management of the Reserve Bank of Australia, the administration of the *Banking Act* 1959 and the management of the Australian note issue.
- (c) The *Commonwealth Banks Act* 1959 which provides for the constitution and management of the Commonwealth Banking Corporation, Commonwealth Trading Bank of Australia, Commonwealth Savings Bank of Australia, and the Commonwealth Development Bank of Australia.

Information on more specific aspects of the growth and control of the banking industry is contained in earlier issues of the Year Book (Nos. 31, 37, 45, 46 and 61).

More recently, as a result of the further development of the financial market and the increasing significance in the market of the non-bank financial institutions such as finance companies, building societies, merchant banks and money market dealers, the *Financial Corporations Act* 1974 was introduced.

The object of this Act is to assist the Government to achieve effective management of the Australian economy by providing a means for the examination and regulation of the activities of non-bank financial institutions having regard to economic stability, the maintenance of full employment, the efficient allocation of productive resources, the ensuring of adequate levels of finance for housing and the economic prosperity and welfare of the people of Australia. Details of the operation and application of the Act are given in Year Book No. 62, page 541.

Statistics compiled from information collected from corporations registered under the Act are provided in the tables on pages 528-9.

Other Commonwealth legislation directly affecting financial institutions

Insurance. Section 51 of the Commonwealth Constitution confers the necessary powers on the Commonwealth Parliament to legislate with respect to 'insurance, other than State insurance; also State insurance extending beyond the limits of the State concerned'. Commonwealth legislation includes the *Marine Insurance Act* 1909 defining the limits of marine insurance and regulating the terms of contracts, etc.; the *Insurance (Deposits) Act* 1932 requiring the lodgment of deposits by insurance companies; the *Life Insurance Act* 1945 generally regulating life insurance business in Australia; and the *Insurance Act* 1973 generally regulating general (non-life) insurance business in Australia. The *Marine Insurance Act* 1909 and the *Insurance (Deposits) Act* 1932 have limited application.

Life Insurance Act 1945. The objects of this Act are:

- (a) to replace all State legislation on the subject of life insurance except that relating to the life insurance operations of State government insurance offices within the State concerned, and to provide uniform legislation for the whole of Australia;
- (b) to appoint a Life Insurance Commissioner to exercise active supervision of the activities of life insurance companies, with a view to securing the greatest possible protection for policy holders; and
- (c) to set up adequate machinery for dealing with any company that fails to maintain a required minimum standard of solvency.

The Act came into operation on 20 June 1946. The Life Insurance Commissioner issues an annual report which contains detailed information on the operations of life insurance companies.

Insurance Act 1973. The objects of this Act are:

- (a) to appoint an Insurance Commissioner to exercise active supervision of the activities of companies conducting general (non-life) insurance business, apart from State government insurance whether or not extending beyond the limits of the State concerned and other organisations specified in the Act, with a view to securing the greatest possible protection for policy holders; and
- (b) to set up adequate machinery for dealing with any company that fails to maintain a required minimum standard of solvency.

The Act came into operation on 19 June 1973. The Insurance Commissioner issues an annual report which contains detailed information on the operations of insurance companies.

State legislation

In each State there exists legislation designed to regulate the activities and monitor the solvency position of particular types of financial institutions which operate on a co-operative basis and lend predominantly to members or consumers. In general, they form the groups covered later in this chapter under the headings of Permanent Building Societies, Terminating Building Societies and Credit Unions.

In some States there is also legislation for the incorporation of State government bodies which operate as banks or insurance offices. Though the regulations in Commonwealth legislation do not directly apply to these bodies, details of their operations have been included in the relevant parts of this chapter because they have agreed to supply information consistent with regulatory reports on a voluntary basis.

BANKS

Reserve Bank of Australia

The Reserve Bank of Australia preserved and continued in existence the original corporate body known as the Commonwealth Bank of Australia under the new name Reserve Bank of Australia.

The general functions of the Reserve Bank are set out in Section 10 of the *Reserve Bank Act* 1959, which states:

‘It is the duty of the Board, within the limits of its powers, to ensure that the monetary and banking policy of the Bank is directed to the greatest advantage of the people of Australia and that the powers of the Bank under this Act, the *Banking Act* 1959, and regulations under that Act are exercised in such a manner as, in the opinion of the Board, will best contribute to:

- (a) The stability of the currency of Australia;
- (b) The maintenance of full employment in Australia; and
- (c) The economic prosperity and welfare of the people of Australia’.

Management

The policy of the Reserve Bank is determined by a Board consisting of the Governor (Chairman), the Deputy Governor, the Secretary to the Treasury, and seven other members appointed by the Governor-General. The Bank is managed by the Governor, who acts in accordance with the policy of the Board and with any directions of the Board. The Bank is required to inform the Government of the monetary and banking policy of the Board. In the event of a disagreement between the Government and the Board as to whether the monetary and banking policy of the Bank is directed to the greatest advantage of the people of Australia, the Governor-General, acting with the advice of the Executive Council, may determine the policy to be adopted by the Bank.

Central Banking Business

Under the *Commonwealth Bank Act* 1911 and the war-time powers conferred by the National Security Regulations, the Commonwealth Bank gradually assumed the functions of a Central Bank. Part III of the *Commonwealth Bank Act* 1945 formally constituted the Bank as a Central Bank and granted the necessary powers to carry on the business of a Central Bank, these powers being carried through into the present Act constituting the Reserve Bank.

Note Issue Department

The Note Issue Department, established in 1920 when the control of the Australian note issue was transferred from the Commonwealth Treasury to the Commonwealth Bank, was maintained in the same form under the *Reserve Bank Act* 1959. The Reserve Bank may, through this Department, issue, re-issue and cancel Australian notes.

Rural Credits Department

The Rural Credits Department, established in 1925 for the purpose of making short-term credit available for the orderly marketing of primary produce, was continued in the same form under the *Reserve Bank Act* 1959. The Reserve Bank may, through this Department, make advances upon the security of primary produce placed under the legal control of the Bank, or other security associated with the production or marketing of primary produce, to co-operative associations or marketing boards formed under the laws of the Commonwealth or a State or Territory of the Commonwealth or other bodies specified by proclamation. The period of the advance is not to exceed one year.

RESERVE BANK OF AUSTRALIA: LIABILITIES AND ASSETS
(\$ million)

LIABILITIES

30 June—	Capital and reserve funds	Special reserve— IMF special drawing rights	Australian notes on issue	Deposits of trading banks		Deposits of savings banks	All other liabilities	Total
				Statutory reserve deposit accounts	Other			
1975	68.2	207.0	2,545.1	417.9	37.8	908.0	1,540.8	5,724.8
1976	69.3	200.6	2,921.4	779.7	74.7	1,053.9	1,271.1	6,370.8
1977	137.3	218.2	3,319.3	1,584.4	29.5	1,055.7	1,765.4	8,109.9
1978	1,189.3	218.3	3,688.1	726.7	10.7	1,122.6	1,723.0	8,678.8
1979	1,953.5	321.3	4,113.3	1,115.5	21.0	815.7	1,906.2	10,246.5
1980	4,061.8	389.6	4,549.3	1,376.1	9.6	553.3	1,067.5	12,007.1

ASSETS

30 June—	Gold and foreign exchange (a)	Australian Government securities (b)	Loans, advances, bills discounted	Bank premises (c)	All other assets	Total
1975	3,337.3	1,227.7	440.3	52.7	666.8	5,724.8
1976	2,422.0	2,706.7	658.6	56.5	527.0	6,370.8
1977	2,466.6	4,205.2	975.0	65.6	397.5	8,109.9
1978	3,047.6	4,365.8	707.0	72.5	485.8	8,678.8
1979	3,706.8	5,173.2	613.6	89.9	663.0	10,246.5
1980	5,504.3	5,197.6	608.3	112.1	584.8	12,007.1

(a) Includes currency at short call and International Monetary Fund drawing rights. (b) Includes Treasury bills and Treasury notes. (c) At cost, less amounts written off.

Trading banks

Commercial banking in Australia is conducted by thirteen trading banks. Six large private trading banks, together with the Commonwealth Trading Bank, are generally referred to as the major trading banks. These banks provide widespread banking facilities throughout Australia. The remaining six banks comprise one small local bank, two overseas banks which have been represented in Australia for many years and three State-owned banks operating only within their respective States.

The major trading banks are as follows: Commonwealth Trading Bank of Australia; Australia and New Zealand Banking Group; The Bank of Adelaide; Bank of New South Wales; The Commercial Bank of Australia Ltd; The Commercial Banking Company of Sydney Ltd; and The National Bank of Australasia Ltd.

The other trading banks are: Bank of Queensland Ltd; Bank of New Zealand; Banque Nationale de Paris; The Rural Bank of New South Wales; State Bank of South Australia; and The Rural and Industries Bank of Western Australia (Rural Department).

Liabilities and assets

Balance sheet information contained in the following table does not relate to uniform accounting periods but rather to the balance dates of banks within the years shown.

AUSTRALIAN TRADING BANKS(a): LIABILITIES AND ASSETS(b)

(\$ million)

LIABILITIES

	Paid-up capital	Reserve funds (used in business of banks)	Final dividend proposed	Balance of profit and loss account	Total share-holders' funds	Balances due to other banks	Deposits, bills payable and other liabilities(c)	Total
1974	417.4	467.6	21.7	39.0	945.7	1,296.0	17,929.1	20,170.8
1975	426.4	494.8	22.4	48.7	992.4	1,122.4	21,274.6	23,389.4
1976	450.4	539.0	30.8	58.1	1,078.3	1,220.3	24,077.0	26,375.6
1977	529.7	663.3	37.1	72.9	1,303.0	1,741.9	26,286.1	29,331.1
1978	594.6	796.7	42.7	104.1	1,538.0	2,356.2	28,697.7	32,591.9
1979	692.9	1,203.5	55.6	145.6	2,097.6	2,914.0	33,511.1	38,522.7

ASSETS

<i>Australian public securities</i>								
	Coin, bullion, notes and cash at Reserve Bank	Money at short call overseas	<i>Australian Government</i>		Local and semi-government securities	Other public securities	Other securities	Loans to authorised dealers in short-term money market
			Treasury bills and notes	Other securities				
1974	313.7	96.4	203.0	2,059.0	71.3	114.1	423.4	303.7
1975	378.9	46.0	1,044.0	2,720.9	77.6	167.0	456.9	327.0
1976	345.8	58.4	313.5	3,737.4	90.0	220.6	509.1	543.8
1977	338.2	82.4	93.3	3,531.5	117.3	197.1	630.8	368.5
1978	357.6	144.3	192.3	3,874.5	143.6	440.9	698.5	693.2
1979	368.7	162.6	154.5	4,156.5	183.9	419.5	892.8	580.0

	Statutory reserve deposit account with Reserve Bank	Cheques and bills of, and balances with and due from other banks	Loans, advances and bills discounted	Bank premises, furniture and sites	Bills receivable and remittances in transit	All other assets	Total
1974	626.4	962.8	11,611.7	248.3	2,139.8	997.2	20,170.8
1975	641.9	996.6	13,158.3	311.7	1,911.2	1,151.6	23,389.4
1976	791.3	982.1	14,817.6	369.7	2,147.0	1,449.1	26,375.6
1977	1,293.2	1,444.9	17,182.8	445.2	1,896.7	1,709.0	29,331.1
1978	666.6	1,534.9	18,768.2	504.2	2,173.7	2,399.3	32,591.9
1979	1102.5	2,424.2	21,509.3	554.3	2,414.0	3,599.8	38,522.7

(a) Excludes the overseas banks but includes the deposits and assets held against the deposits of the Savings Bank Division of the Rural and Industries Bank of Western Australia. (b) Relates to liabilities and assets both inside and outside Australia. (c) Includes provisions for contingencies.

Figures shown in the table below are the average of liabilities and assets within Australia (including external territories) of the banks on the weekly balance days (Wednesdays) during the period concerned.

ALL TRADING BANKS: AVERAGE LIABILITIES AND ASSETS WITHIN AUSTRALIA

(\$ million)

LIABILITIES(a)(b)

<i>Deposits repayable in Australia</i>							
<i>June</i>	<i>Current</i>			<i>Total</i>	<i>Balances due to other banks</i>	<i>Bills payable and all other liabilities to the public</i>	<i>Total</i>
	<i>Fixed</i>	<i>Bearing interest</i>	<i>Not bearing interest</i>				
1975	8,635.0	842.6	5,458.0	14,935.7	588.0	1,695.2	17,218.9
1976	9,778.0	927.4	6,249.4	16,954.8	603.7	2,079.0	19,637.6
1977	11,464.7	990.2	6,634.2	19,089.1	607.9	2,358.0	22,055.0
1978	11,596.0	1,045.0	7,105.3	19,746.2	682.8	2,907.5	23,336.6
1979	12,577.3	1,159.8	8,441.8	22,178.9	900.4	4,347.9	27,427.1
1980	14,755.5	1,247.7	9,643.7	25,647.0	790.0	5,551.4	31,988.5

ASSETS(b)

<i>June</i>	<i>Coin, bullion, notes and cash at Reserve Bank</i>	<i>Australian Government securities</i>	<i>Local and semi-government securities</i>	<i>Loans to authorised dealers in short-term money market</i>	<i>Statutory reserve deposit account with Reserve Bank</i>	<i>Loans, advances and bills discounted</i>	<i>All other assets</i>	<i>Total</i>
	<i>Treasury bills and notes</i>	<i>Other securities</i>						
1975	299.0	1,167.8	2,358.9	31.2	167.4	421.4	11,205.0	17,973.5
1976	345.6	191.0	3,410.9	32.8	182.3	840.5	12,575.6	20,352.9
1977	380.0	78.8	3,567.9	46.1	144.4	1,704.2	14,006.0	23,130.7
1978	409.4	97.9	3,609.1	45.1	190.9	734.0	15,777.2	24,832.3
1979	435.3	204.4	3,951.2	71.8	265.3	1,125.5	17,653.3	29,150.2
1980	485.6	182.8	4,118.1	205.1	384.3	1,385.6	20,402.0	34,075.7

(a) Excludes shareholders' funds. (b) Excludes inter-branch accounts and contingencies.

Major trading banks: classification of advances and deposits

In the classification of advances and deposits, borrowers and lenders are classified into two main groups:

Residents—comprising all institutions (including branches of overseas institutions) engaged in business in Australia and individuals permanently residing in Australia; and

Non-residents—comprising all other persons and institutions, including companies incorporated abroad, which, although represented, do not carry on business in Australia.

Residents are further classified into:

Businesses—partnerships, companies and other institutions engaged in business in Australia; individuals actively engaged in business or a profession on their own behalf; and mutual, co-operative and benefit societies which distribute their profits to members by way of dividends, rebates of charges for goods and services, or increased benefits.

Public authorities—local and semi-government authorities including separately constituted government business undertakings, but not the Commonwealth and State Governments.

Persons—individuals other than those carrying on a business or profession.

Non-profit organisations—organisations which are not operated for the purpose of making a profit or gain to individual members, but for the purposes of the organisations or for the benefit of the community in general.

**MAJOR TRADING BANKS:
CLASSIFICATION OF ADVANCES AND DEPOSITS WITHIN AUSTRALIA**
(\$ million)

	<i>Advances</i>				<i>Deposits</i>			
	<i>At second Wednesday of:</i>				<i>At second Wednesday of:</i>			
	<i>July 1978</i>	<i>January 1979</i>	<i>July 1979</i>	<i>January 1980</i>	<i>July 1978</i>	<i>January 1979</i>	<i>July 1979</i>	<i>January 1980</i>
Residents—								
Businesses								
Agriculture, grazing and dairying	1,559.8	1,543.5	1,780.3	1,767.2	1,162.6	1,491.9	1,392.6	2,023.7
Manufacturing	1,765.8	1,726.3	1,829.0	1,947.6	462.8	637.2	570.2	737.1
Transport, storage and commun-								
ication	230.2	236.9	257.9	268.4	193.4	192.3	182.9	219.7
Finance	820.5	895.1	812.2	930.4	1,104.6	1,324.2	1,215.9	1,447.9
Commerce	1,519.1	1,583.0	1,735.6	1,885.3	822.3	969.1	877.7	1,051.1
Building and construction	437.1	456.1	482.5	487.7	389.0	406.3	404.4	456.5
Other businesses	2,218.9	2,192.0	2,200.1	2,320.3	1,998.2	1,959.2	2,049.5	2,154.3
Unclassified	231.7	326.0	337.4	301.7	291.5	472.9	491.0	614.9
<i>Total business</i>	<i>8,782.9</i>	<i>8,958.8</i>	<i>9,434.9</i>	<i>9,908.7</i>	<i>6,424.5</i>	<i>7,453.2</i>	<i>7,184.1</i>	<i>8,705.0</i>
of which—								
Companies	5,356.9	5,085.9	5,665.6	5,954.1	2,873.2	3,258.7	3,282.9	3,908.9
Other	3,426.0	3,872.9	3,769.3	3,954.6	3,551.3	4,194.6	3,901.2	4,796.2
Public authorities	93.5	138.2	111.3	137.6	1,558.5	1,849.2	1,415.7	1,636.1
Persons	4,584.1	5,131.8	5,661.9	6,177.0	6,811.2	7,609.5	8,339.2	9,201.3
Non-profit organisations	137.0	136.5	141.4	156.7	849.1	815.3	850.3	834.2
<i>Total residents</i>	<i>13,597.6</i>	<i>14,365.3</i>	<i>15,349.5</i>	<i>16,380.0</i>	<i>15,643.3</i>	<i>17,727.3</i>	<i>17,789.4</i>	<i>20,376.6</i>
<i>Total non-residents</i>	<i>11.8</i>	<i>16.1</i>	<i>19.7</i>	<i>39.9</i>	<i>223.9</i>	<i>282.6</i>	<i>280.0</i>	<i>329.0</i>
<i>Total</i>	<i>13,609.4</i>	<i>14,381.4</i>	<i>15,369.2</i>	<i>16,419.9</i>	<i>15,867.2</i>	<i>18,009.9</i>	<i>18,069.4</i>	<i>20,705.7</i>

Interest rates

At 30 June 1980, the maximum rates of interest were: (i) on fixed deposits of less than \$50,000, for periods of 3 months and less than 6 months—8.00 per cent to 8.50 per cent, 6 months and less than 2 years—8.50 per cent to 10.00 per cent, 2 years and less than 4 years—9.00 per cent to 10.00 per cent; (ii) on fixed deposits of \$50,000 and over, 30 days to 4 years—10 per cent; (iii) on certificates of deposit of \$50,000 and over, 3 months to 4 years—not subject to maximum rate; (iv) on overdrafts under \$100,000—10.50 per cent; (v) on overdrafts over \$100,000—not subject to maximum rate; (vi) on personal loans—7.50 per cent.

Branches and agencies

At 30 June 1980 the major trading banks operated 4,730 branches, and the other trading banks 358 branches. Of the total 5,088 branches, 2,768 were located in metropolitan areas. Trading bank facilities were also available at 1,009 agencies throughout Australia.

Debits to customers' accounts

TRADING BANKS: AVERAGE WEEKLY DEBITS TO CUSTOMERS' ACCOUNTS(a)
(\$ million)

<i>June</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
1975	4,052.6	3,334.9	870.1	494.1	579.3	131.2	23.9	95.4	9,581.5
1976	5,079.1	4,442.3	1,209.5	676.9	756.5	173.8	32.8	152.4	12,523.2
1977	5,443.8	5,209.3	1,421.8	789.7	875.5	184.0	36.3	150.7	14,111.2
1978	7,316.5	5,552.6	1,528.1	846.8	1,079.7	190.9	35.7	246.0	16,796.3
1979	8,147.8	7,050.1	1,712.4	924.5	1,370.3	243.8	43.1	186.9	19,678.9
1980	10,516.4	7,854.9	2,108.4	1,021.0	1,498.7	268.0	76.1	240.0	23,583.6

(a) Covers all trading banks and in addition the Rural Credits Department of the Reserve Bank and the Commonwealth Development Bank. Excludes debits to the Commonwealth and State Government accounts in capital cities.

Savings banks

Prior to 1956 savings bank operations were conducted by the Commonwealth Savings Bank, two trustee savings banks in Tasmania, and State-owned banks in Victoria, South Australia and Western Australia. In January 1956 private savings banks were established as subsidiary companies by two of the private trading banks. By mid-1962 all the major private trading banks had established savings bank subsidiary companies. In May 1972 the Bank of New Zealand Savings Bank Limited was granted an authority to carry on savings bank business in Australia.

All savings banks, including trustee savings banks but not State savings banks, are subject to the *Banking Act 1959*.

Liabilities and assets

Balance sheet information contained in the following table does not relate to uniform accounting periods but rather to the balance dates of banks falling within the years shown.

SAVINGS BANKS (a): LIABILITIES AND ASSETS (b)

(\$ million)

LIABILITIES

	Paid-up capital	Reserve funds (used in the business of the bank)	Balance of profit and loss account	Total share-holders' funds	Depositors' balances	Balances due to other banks	Bills payable and all other liabilities (c)	Total
1974	40.5	207.3	9.7	257.5	11,101.0	35.9	395.6	11,789.9
1975	43.0	227.0	11.1	281.0	12,984.8	96.7	549.6	13,912.2
1976	49.0	262.0	14.1	325.1	14,956.3	65.2	633.5	15,980.1
1977	60.0	302.9	19.1	381.9	16,432.0	133.7	682.5	17,630.0
1978	60.0	370.8	22.6	453.4	18,078.7	86.1	751.4	19,369.6
1979	85.0	639.2	32.9	757.1	19,811.6	105.1	622.9	21,296.7

ASSETS

	Coin, bullion, notes and deposits with Reserve Bank	Deposits in Australia with trading banks	Australian public securities			
			Commonwealth and State Governments		Local and semi- government securities	Other securities
			Treasury bills and notes	Other securities		
1974	1,059.0	281.3	47.8	2,850.4	2,791.6	24.8
1975	978.5	430.9	50.4	3,001.8	3,298.1	43.6
1976	1,099.3	314.4	48.6	2,896.5	3,898.6	55.8
1977	1,136.2	283.4	53.9	2,643.7	4,472.2	48.6
1978	1,146.9	218.4	97.1	2,514.5	4,899.8	54.5
1979	850.5	258.7	594.6	2,469.0	5,303.6	53.4

	Loans to authorised dealers in short-term money market	Cheques and bills of, and balances with and due from other banks (d)	Loans advances and bills discounted	Bank premises, furniture and sites	Bills receivable and remittances in transit	All other assets	Total
1974	69.7	245.4	4,138.1	135.5	—	146.2	11,789.9
1975	79.5	279.1	5,381.8	173.3	0.1	195.3	13,912.2
1976	68.2	322.9	6,805.1	204.9	55.8	210.1	15,980.1
1977	67.9	300.1	8,056.5	240.6	81.3	245.6	17,630.0
1978	118.0	351.4	9,371.4	276.6	71.2	249.6	19,369.6
1979	137.5	372.8	10,614.1	317.8	47.5	277.4	21,296.7

(a) Excludes Savings Bank Division of the Rural and Industries Bank of Western Australia. (b) This table relates to liabilities and assets both inside and outside Australia. (c) Includes provisions for contingencies. (d) Includes deposits with and loans to specified lenders other than trading banks.

Branches and agencies

At 30 June 1980 the savings banks operated 5,677 branches and 11,921 agencies, of which 3,174 branches and 5,821 agencies were in metropolitan areas.

Development banks**Commonwealth Development Bank of Australia**

The Commonwealth Development Bank of Australia was established by the *Commonwealth Banks Act* 1959 and commenced operations on 14 January 1960. It was formed basically from an amalgamation of the Mortgage Bank and Industrial Finance Departments of the Commonwealth Bank of Australia. Under the Act the Bank is authorised to provide assistance for the development of worthwhile enterprises in the fields of primary and secondary industries which would otherwise be unable to obtain the necessary finance on reasonable and suitable terms and conditions. The Commonwealth Development Bank is managed by a General Manager under the Managing Director of the Commonwealth Banking Corporation and its policy is determined by the Board of that Corporation. The capital of the Development Bank consists of the capital of the Mortgage Bank and Industrial Finance Departments of the Commonwealth Bank immediately prior to 14 January 1960, \$10 million provided by the Reserve Bank, \$20 million appropriated from the Consolidated Revenue Fund in 1961–62 by the *Commonwealth Banks Act* 1961 and the *Commonwealth Banks Act* 1962, \$10 million appropriated in 1963–64 by the *Commonwealth Banks Act* 1963, and such other sums as are provided from the Commonwealth Development Bank Reserve Fund. The net profits of the Bank are paid to the Commonwealth Development Bank Reserve Fund.

Australian Resources Development Bank Limited

The Australian Resources Development Bank Limited was established in 1967 with equity capital of \$3 million subscribed by the major trading banks. It was given the status of a bank under the *Banking Act* 1959 and opened for business on 29 March 1968. The main object of the Australian Resources Development Bank is to assist Australian enterprises to participate more fully in the development of Australia's natural resources. It provides finance to enterprises engaged in major developmental projects by direct loans, investing in equity capital or by refinancing loans made by trading banks acting individually or as a group. The Australian Resources Development Bank obtains funds by accepting deposits and by borrowing on the Australian and overseas capital markets.

The Primary Industry Bank of Australia Limited

The Primary Industry Bank of Australia Limited commenced operations on 22 September 1978 under the authority of the *Primary Industry Bank Act* 1977. The Bank has also been brought within the scope of the *Banking Act* 1959 including those provisions relating to the protection of depositors, advances policy, control of interest rates, furnishing of statistics, and alterations in the structure and ownership of the Bank.

The main objective of the Bank is to facilitate the provision of loans to primary producers for longer terms than are otherwise generally available. The Bank's role is restricted to refinancing loans made by banks and other financial institutions with terms of eight years or more but not exceeding thirty years.

The initial equity capital of the Bank is \$5,625,000 consisting of nine shares of \$625,000. Eight shares are held by the Commonwealth Government and the seven major trading banks while the ninth share is held equally by the four State banks.

REGISTERED BUILDING SOCIETIES**Permanent building societies**

A permanent building society is defined as an organisation that: (i) is registered under relevant State or Territory legislation; (ii) has rules or regulations that do not specify that it is to terminate on a specific date or when a specific objective is achieved; and (iii) operates on a co-operative basis by borrowing predominantly from its members and providing finance to its members principally in the form of housing loans.

In 1976 a statistical collection was introduced covering the financial accounts of permanent building societies in all States and Territories of Australia. The statistics below summarise information collected from the 146 permanent building societies balancing in the 1978–79 financial year. More detailed descriptions and dissections of these statistics may be found in the annual publication *Permanent Building Societies: Assets, Liabilities, Income and Expenditure, Australia* (5632.0).

Information relating to the housing finance operations of permanent building societies is provided on pages 537-9. Detailed statistics on the operations generally of permanent building societies are available in the monthly publication *Housing Finance for Owner Occupation, Permanent Building Societies, Australia* (5610.0).

Summary statistics on the financial operations, assets and selected liabilities of permanent building societies registered under the *Financial Corporations Act* 1974, and which have assets in Australia exceeding \$5 million, are given on pages 528-9.

**PERMANENT BUILDING SOCIETIES:
LIABILITIES AND ASSETS^(a)**

(\$ million)

<i>Liabilities</i>	<i>1978-79</i>	<i>Assets</i>	<i>1978-79</i>
Share capital and reserves:		Amount owing on loans	7,078.4
Non-withdrawable shares	23.1	Cash on hand	5.7
Withdrawable shares	6,394.4	Deposits with—	
Reserves—		Banks	733.4
Statutory	73.8	Other	188.4
Other ^(b)	79.6	Bills, bonds and other securities	784.5
Deposits	2,153.5	Accounts receivable	20.0
Loans	244.7	Physical assets	211.7
Accounts payable	29.9	Other assets	4.7
Other liabilities	28.0		
Total liabilities	9,027.1	Total assets	9,027.1

(a) At the balance dates of societies within the financial year shown: (b) Includes accumulated surpluses and deficits.

**PERMANENT BUILDING SOCIETIES:
INCOME AND EXPENDITURE**

(\$ million)

<i>Expenditure</i>	<i>1978-79</i>	<i>Income</i>	<i>1978-79</i>
Interest on:		Interest from:	
Shares	506.9	Loans	722.1
Deposits	175.1	Deposits	91.7
Loans	15.6	Income from holdings of securities	68.3
Wages and salaries	49.2	Management fees	14.5
Management fees ^(a)	21.0	Other income	13.3
Administrative expenses ^(b)	50.6	Total income	909.9
Insurance premiums paid	1.5		
Other expenditure	37.1		
Total expenditure	856.9		

(a) Represents payments made by societies to separate management companies. (b) Includes Permanent Building Society Association costs, advertising, bank charges and other administrative expenses.

Terminating building societies

A terminating building society is defined as an organisation that: (i) is registered under relevant State or Territory legislation; (ii) has rules or regulations which specify that it is to terminate on a specific date or when a specific objective is achieved; and (iii) makes loans to members from funds obtained from lending institutions (usually government guaranteed), members' subscriptions, or from moneys provided under Commonwealth-State Housing Agreements.

In 1977 a statistical collection was introduced covering the financial accounts of terminating building societies in all States and Territories of Australia. The statistics below summarise information collected from the 6,725 terminating building societies balancing within the 1978-79 financial year. More detailed descriptions and dissections of these statistics may be found in the annual publication *Terminating Building Societies: Assets, Liabilities, Income and Expenditure, Australia* (5633.0).

Information relating to the housing finance operations of terminating building societies is provided on pages 537-9.

**TERMINATING BUILDING SOCIETIES:
LIABILITIES AND ASSETS(a)**

(\$ million)

<i>Liabilities</i>	<i>1978-79</i>	<i>Assets</i>	<i>1978-79</i>
Share capital(b)	2.0	Amount owing on loans(b)	1,345.2
Accumulated funds(c)	26.8	Cash on hand and current	
Loans from:		accounts at banks	12.1
Banks	251.5	Deposits with:	
Commonwealth/State		Banks	3.5
Home Builders' Fund(d)	814.3	Others	12.0
Others	273.5	Physical assets	0.2
Other liabilities	6.7	Other assets	2.0
Total liabilities	1,374.9	Total assets	1,374.9

(a) At the balance dates of societies within the financial year shown. (b) Borrowing members' subscriptions have been offset against 'Amount owing on loans'. (c) Includes accumulated surpluses and deficits. (d) Refers to loans made through the Commonwealth/State Housing Agreements.

**TERMINATING BUILDING SOCIETIES:
INCOME AND EXPENDITURE**

(\$ million)

<i>Expenditure</i>	<i>1978-79</i>	<i>Income</i>	<i>1978-79</i>
Interest paid on borrowing		Interest on:	
members' subscriptions	4.2	Loans to members	90.9
Interest on loans from:		Other	1.0
Banks	22.7	Management fees	10.3
Other	61.9	Other income	2.4
Salaries and secretarial fees	9.2	Total income	104.5
Other expenditure	3.6		
Total expenditure	101.5		

CREDIT UNIONS

A credit union (or co-operative credit society) is defined as an organisation that: (i) is registered under relevant State or Territory legislation; and (ii) operates on a co-operative basis by predominantly borrowing from and providing finance to its own members.

Credit union annual financial account statistics were first collected on a national basis from all registered credit unions for the year 1974-75 when there were 738 credit unions with a total of 909,547 members. The number of credit unions operating in 1978-79 was 669 with 1,329,849 members. Comprehensive financial account statistics are provided in the annual publication *Credit Unions: Assets, Liabilities, Income and Expenditure, Australia* (5618.0).

Statistics on the housing finance operations of credit unions are provided on pages 537-9, while on pages 528-9 are summary statistics on the financial operations, assets and selected liabilities of credit unions registered under the *Financial Corporations Act 1974* which have assets in Australia exceeding \$5 million.

CREDIT UNIONS: LIABILITIES AND ASSETS(a)

(\$ million)

<i>Liabilities</i>	<i>1978-79</i>	<i>Assets</i>	<i>1978-79</i>
Share capital and reserves:		Amount owing on loans(c)	1,421.3
Paid up share capital	11.2	Cash on hand	5.1
Reserves—		Deposits with—	
Statutory	15.1	Banks	47.0
Other(b)	26.5	Credit Union Leagues or Associations	103.0
Deposits	1,630.5	Other	67.5
Loans	50.4	Bills, bonds and other securities	41.4
Accounts payable	8.3	Accounts receivable	8.5
Other liabilities	4.3	Physical assets	49.2
		Other assets	3.5
Total liabilities	1,746.3	Total assets	1,746.3

(a) At the balance dates of credit unions within the financial year shown. (b) Includes accumulated surpluses and deficits. (c) Net of unearned interest and allowance for doubtful debts.

CREDIT UNIONS: INCOME AND EXPENDITURE
(\$ million)

<i>Expenditure</i>	<i>1978-79</i>	<i>Income</i>	<i>1978-79</i>
Interest on:		Interest from:	
Deposits	117.2	Loans	180.3
Loans	2.9	Deposits	18.1
Wages and salaries	29.8		
Administrative expenses	20.0	Income from holdings of securities	2.5
Insurance premiums paid	5.3	Management fees	1.9
Allowance for doubtful debts	3.9	Bad debts recovered	0.8
Other expenditure	12.6	Other income	3.4
Total expenditure	191.8	Total income	206.9

SHORT-TERM MONEY MARKET

Authorised money market corporations

For some years prior to 1959 leading stockbrokers were actively engaged in operations which formed the basis of a short-term money market in Australia. The stockbrokers' operations involved the acceptance of short-term funds which were secured against government securities. These operations were severely limited by the lack of suitable short-term securities and by liquidity constraints. In February 1959 the Central Bank established the Official Short-Term Money Market by making available 'lender of last resort' facilities to selected dealers.

There are nine authorised money market dealers. They are required by the Reserve Bank to: (i) accept loans overnight, at call or for fixed periods, in minimum amounts of \$50,000 and invest these funds in Commonwealth Government and other approved securities; (ii) at all times be willing traders in the buying and selling of approved securities; (iii) have a minimum paid-up capital of \$400,000 and adhere to a maximum limit on the ratio of loans to shareholders' funds; and (iv) consult regularly with the Reserve Bank on all market matters and furnish detailed information about their portfolios, operations, interest rates, balance sheets and profit and loss accounts. Under the 'lender of last resort' arrangements dealers may borrow from the Reserve Bank for a minimum of seven days and at a rate designed to discourage excessive recourse to the facility.

The following table contains details of selected liabilities and assets, and interest rates. Additional information on authorised dealers collected under the *Financial Corporations Act 1974* is provided on pages 528-9.

SHORT-TERM MONEY MARKET: SELECTED LIABILITIES AND ASSETS AND INTEREST RATES OF AUTHORISED DEALERS

(Source: Reserve Bank of Australia)

Month	Asset holdings (face value)						Interest rates on loans accepted during month				Weighted average interest rate on loans outstanding (c) per cent per annum
	Liabilities to clients		C'wealth Govt securities (a)	Com-mercial bills(b)	Banks' certi-ficates of deposit	At call		For fixed periods			
	All trading banks	Other clients				Mini-mum per cent per annum	Maxi-mum per cent per annum	Mini-mum per cent per annum	Maxi-mum per cent per annum		
	Total										
	Average of weekly figures—(\$ million)										
June—1975	167.4	558.7	726.1	613.3	83.7	47.9	1.50	14.10	3.00	11.50	6.72
1976	182.3	636.1	818.4	749.7	129.2	61.3	2.00	14.00	4.50	9.50	8.03
1977	144.4	701.9	846.3	829.5	129.8	21.6	3.00	15.30	5.00	13.80	9.33
1978	190.9	1,088.5	1,279.4	1,143.5	153.5	15.8	0.50	18.86	3.00	11.50	9.05
1979	265.3	1,213.1	1,478.4	1,246.2	190.2	18.3	1.00	18.25	3.10	11.00	7.75
1980	384.3	1,113.5	1,497.8	1,274.2	228.9	58.1	1.00	18.80	5.50	13.00	10.34

(a) Within 5 years of maturity. (b) Accepted or endorsed by banks. (c) To June 1975 weighted average of rates on clients' loans outstanding on each Wednesday of the month. Thereafter weighted average of rates paid on all days of the four or five weeks ending on the last Wednesday of the month.

Money market corporations

There are also companies without Reserve Bank 'lender of last resort' facilities which operate in a similar manner to authorised dealers. These companies are recognised under the *Financial Corporations Act* 1974 in the category of money market corporations which consists of registered corporations whose short term borrowings are a substantial proportion of their total outstanding provision of finance, which is mainly in the form of loans to authorised dealers in the short-term money market and other liquidity placements, business loans and investments in Government, commercial and corporate paper.

The category of money market corporations also includes registered corporations providing short term finance but which are themselves financed by related corporations with funds raised on a short term basis, as well as corporations which borrow principally short term and lend predominantly to related money market corporations.

Statistics on money market corporations registered under the *Financial Corporations Act* 1974 are contained in the tables on pages 528-9.

FINANCE COMPANIES

Information presented on finance companies in Australia in the following tables has been compiled from returns collected under the *Census and Statistics Act* 1905. For the purpose of these statistics a finance company is defined as an incorporated company mainly engaged in providing to the general public (businesses as well as persons in their private capacity) credit facilities of the following types: instalment credit for retail sales, personal loans, wholesale finance, factoring, other consumer and commercial loans, financial leasing of business plant and equipment and bills of exchange. A company is mainly engaged in providing these credit facilities if 50 per cent or more of its assets consist of balances outstanding with respect to these types of financing, or if 50 per cent or more of its income is derived from such types of financing.

The statistics for the financial year relate to those finance companies which individually or as a group of related finance companies had balances outstanding in the prescribed types of financial agreements of \$5 million or more, on an Australia-wide basis, as at 30 June of the previous financial year. The 102 finance companies that met this criterion at the 1978-79 annual census of finance companies accounted for 98.5 per cent of the balances outstanding of all finance companies.

Comprehensive information on the transactions and financial structure of finance companies is available in the monthly publication *Finance Companies, Australia* (5614.0) and the annual publication *Finance Companies: Assets, Liabilities, Income and Expenditure, Australia* (5616.0) respectively. Information on foreign ownership and control of finance companies is given in Chapter 24, Overseas Transactions.

Although individual corporations in the *Financial Corporations Act* 1974 categories of finance companies and general financiers may meet the above definition of a finance company, differences in definitions, scope and coverage generally mean that the statistics on pages 528-9 for those categories are not comparable with the statistics for finance companies shown on the next page.

FINANCE COMPANIES: ASSETS, LIABILITIES, INCOME AND EXPENDITURE(a)
(\$ million)

	1976-77	1977-78	1978-79
Assets—			
Balances outstanding on finance agreements(b)	10,039.0	12,018.1	13,422.9
Cash on hand and bank deposits	25.3	28.0	65.4
Loans to authorised money market dealers	18.1	37.1	37.5
Investments in shares and securities	170.6	200.6	210.2
Physical assets	194.6	182.3	174.7
Other assets	189.2	180.0	260.1
Total assets	10,636.8	12,646.1	14,170.8
Liabilities—			
Paid-up capital	629.3	803.2	939.6
Reserves	358.3	379.3	408.2
Unappropriated profits	257.5	237.3	257.7
Borrowed funds—			
Bank loans and overdrafts	225.1	222.6	322.0
Debentures	5,655.2	6,313.0	7,038.8
Secured and unsecured loans	2,652.5	3,571.3	3,945.6
Other liabilities	858.9	1,119.2	1,259.0
Total liabilities	10,636.8	12,646.1	14,170.8
Income for year—			
Interest from finance agreements	1,409.8	1,746.0	1,956.6
Other income	117.4	131.6	137.6
Total income	1,527.2	1,877.6	2,094.2
Expenditure for year—			
Interest on borrowed funds	845.1	1,089.2	1,225.7
Wages, salaries and allowances, directors fees and emoluments	145.3	175.5	209.8
Other expenditure	380.7	434.8	429.9
Total expenditure	1,371.1	1,699.5	1,865.4

(a) At the balance date of companies within the financial year shown. (b) Excludes unmatured income of \$2,220.0m in 1976-77, \$2,801.5m in 1977-78 and \$3,200.0m in 1978-79.

FINANCE COMPANIES: AMOUNT FINANCED AND BALANCES OUTSTANDING CLASSIFIED BY THE TYPE OF FINANCE AGREEMENT
(\$ million)

	1977-78(a)	1978-79	1979-80
Amount financed during year—			
Instalment credit for retail sales and personal loans	2,206.7	2,317.2	2,294.4
Finance for housing	1,064.6	1,107.4	1,283.9
Wholesale finance	4,089.1	4,694.0	4,900.5
Factoring and other commercial loans	1,679.0	2,025.1	2,569.8
Leasing of business plant and equipment(b)	1,780.3	2,319.0	2,766.7
Bills of exchange(c)	1,859.0	958.2	762.9
Total amount financed on finance agreements(d)	12,678.7	13,421.0	14,578.1
Balances outstanding at 30 June—			
Instalment credit for retail sales and personal loans	4,019.5	4,251.3	4,322.1
Finance for housing	2,711.9	2,632.5	2,858.5
Wholesale finance	1,078.4	1,251.4	1,290.2
Factoring and other commercial loans	3,069.3	3,274.1	3,694.5
Leasing of business plant and equipment(e)	3,761.4	5,101.2	6,442.9
Bills of exchange	200.8	101.9	87.0
Liquidity placements and loans to non-finance companies in group	424.2	484.4	369.3
Total balances outstanding on finance agreements(f)	15,265.6	17,096.8	19,064.5

(a) Not directly comparable with later years, as from July 1978, includes only those finance companies which individually or as a group of related finance companies had balances outstanding in prescribed types of finance agreements of \$5 million or more (previously \$500,000 or more). The impact of this change on the statistics was minimal. (b) Refers to the value of goods newly leased. (c) Refers to amounts paid for bills acquired. (d) Excludes amounts for liquidity placements and loans to non-finance companies in group. (e) Refers to the value of leasing agreements. (f) Includes unmatured income.

FINANCIAL CORPORATION STATISTICS

The statistics provided in the following tables have been compiled from monthly returns supplied to the Australian Bureau of Statistics by corporations registered under the *Financial Corporations Act* 1974 and which have Australia-wide assets exceeding \$5 million. A summary of the objects and content of the Financial Corporations Act is given in Year Book No. 62, page 541. Information is also collected quarterly from registered corporations whose comparable asset figures exceed \$1 million but not \$5 million. Detailed statistics on all corporations registered under the Act are published in the monthly publication *Financial Corporations Statistics, Australia* (5617.0).

Descriptions of the categories *building societies*, *credit unions/co-operatives*, *authorised money market dealers* and *money market corporations* appear in the respective parts of this chapter. Descriptions of the other categories are as follows:

Pastoral finance companies—comprising corporations whose provision of finance is predominantly in the form of loans to rural producers largely associated with the provision of rural services.

Finance companies—comprising corporations not included in the categories *building societies*, *credit co-operatives*, *authorised money market dealers*, *money market corporations* or *pastoral finance companies* which rely substantially on borrowings in financial markets in Australia and/or from abroad and whose provision of finance is predominantly in the form of business and commercial lending, instalment credit to finance retail sales by others and/or other loans to individuals.

General financiers—comprising corporations which lend predominantly for business and commercial purposes, instalment credit to finance retail sales by others and/or other loans to individuals but which do not rely substantially on borrowings in financial markets in Australia and from abroad.

Intra group financiers—comprising corporations not elsewhere categorised which predominantly borrow within a corporation group and/or provide finance by lending within their corporation group or by investing in financial markets.

Other financial corporations—comprising registered corporations not included in any other specific category.

**FINANCIAL CORPORATIONS WITH ASSETS IN AUSTRALIA EXCEEDING \$5 MILLION:
FINANCIAL OPERATIONS, SELECTED LIABILITIES AND ASSETS**

(\$ million)

FINANCIAL OPERATIONS AND SELECTED LIABILITIES AS AT 30 JUNE 1980

Category	Financial operations						
	Number of corpor- ations	Unused lending commit- ments (a)	Borrowing lines and standby facilities available and unused from—(b)		Selected liabilities		
			Residents	Non- residents	Paid up capital	Borrowings from—	
						Residents	Non- residents
Building societies	90	442.7	394.9	4.5	(c) 25.3	(c) 10,068.7	8.2
Credit co-operatives	83	8.8	13.4	—	(c)	(c) 1,435.8	—
Authorised money market dealers	9	9.1	—	—	30.4	1,503.2	0.1
Money market corporations	48	1,685.7	372.8	582.0	228.1	5,715.7	216.5
Pastoral finance companies	14	—	89.6	—	148.0	571.2	2.4
Finance companies	89	1,036.5	645.3	373.7	1,122.1	15,067.2	107.8
General financiers	82	65.6	162.6	15.2	142.1	1,153.5	64.9
Intra group financiers	11	—	3.7	—	53.1	(d) 170.1	24.2
Other financial corporations	8	3.8	13.3	—	1.8	149.6	—
Total	434	3,252.2	1,695.3	975.4	1,750.9	(e) 35,835.2	424.2

For footnotes see end of table.

ASSETS IN AUSTRALIA AT 30 JUNE 1980

Category	Cash and bank deposits	Loans to authorised dealers in the STMM and other short term placements(f)	Government and public authority securities	Bills of exchange and promissory notes counted and held(g)	Other financial investments	Other assets arising from the provision of finances(h)	All other assets in Australia	Total assets in Australia	Assets overseas
Building societies	1,006.3	141.6	404.6	459.3	13.6	8,131.6	302.4	10,459.4	-
Credit co-operatives	41.6	94.2	20.1	0.9	3.9	1,280.6	66.3	1,507.7	-
Authorised money market dealers	55.7	5.5	1,379.6	232.6	2.4	0.5	22.1	1,698.3	-
Money market corporations	349.0	932.7	203.8	1,627.0	212.6	2,975.6	144.9	6,445.6	48.5
Pastoral finance companies	23.5	16.5	0.5	0.8	226.0	493.0	497.1	1,257.4	1.9
Finance companies	56.3	138.0	8.2	109.4	534.5	16,788.6	107.6	17,742.5	1.5
General financiers	3.4	17.0	1.4	10.6	55.4	1,429.4	222.4	1,739.6	1.1
Intra group financiers	0.4	46.4	-	-	285.9	291.0	27.1	650.8	0.1
Other financial corporations	13.5	36.7	11.5	13.7	(i)	69.7	10.8	155.8	-
Total	1,549.7	1,428.6	2,029.5	2,454.3	1,334.3	31,459.9	1,400.9	41,657.0	53.2

(a) Includes all binding commitments to provide funds to residents of Australia other than those that are of a type which is usually completely disbursed within 30 days of approval; excludes commitments that do not have a quantifiable limit. (b) Includes all binding commitments (i.e. borrowing lines and standby facilities) to provide funds to reporting corporations; excludes standby facilities which do not have a quantifiable limit. (c) 'Paid-up capital' includes only fixed share capital; withdrawable share capital is included in 'Borrowings from residents'. (d) Excludes borrowings from related corporations not registered under the Financial Corporations Act. (e) Excludes borrowings from related corporations not registered under the Financial Corporations Act for Intra group financiers. (f) Includes short term placements that are repayable at call or within 90 days; excludes funds placed with banks and related corporations, and purchases of government securities and bills of exchange. (g) Excludes bills that have been drawn or accepted by reporting corporations. (h) Includes holdings of bills that have been drawn by reporting corporations and loans that have been re-financed by the sale of bills accepted by reporting corporations. (i) Not available separately; included in 'All other assets in Australia'.

LIFE INSURANCE

Statistics in the following tables have been compiled from returns lodged under the *Life Insurance Act* 1945 (see page 515) and relate to the life insurance business of companies with head offices in Australia and the Australian business of companies with head offices overseas. Also included are the life business operations voluntarily reported by two State Government Insurance Offices.

Forty six life offices conducted life insurance business in Australia during 1978.

Summary information on foreign ownership and control of life insurance business is shown in Chapter 24, Overseas Transactions.

Information contained in the following two tables does not relate to uniform accounting periods but to the balance dates of organisations falling within the calendar year shown.

LIFE INSURANCE OFFICES: LIABILITIES AND ASSETS
(\$ million)

	1976	1977	1978
Liabilities—			
Shareholders' capital—			
Authorised	125.2	133.7	139.7
Less: unissued	73.7	73.4	79.3
Subscribed capital	51.5	60.3	60.4
Paid-up—			
In money	41.2	50.0	50.1
Otherwise than money	9.5	9.5	9.5
Total paid-up capital	50.8	59.5	59.6
Life insurance statutory funds—			
Ordinary business	7,768.5	8,377.5	9,579.0
Industrial business	562.8	573.7	
Superannuation business	3,205.4	3,744.1	4,500.1
Total statutory funds	11,536.7	12,695.3	14,079.1
Funds in respect of other classes of business	51.7	76.1	99.9
General reserves	198.6	205.0	236.1
Profit and loss account balance	30.5	42.2	61.0
<i>Total shareholders' capital, insurance funds and reserves</i>	<i>11,868.3</i>	<i>13,078.1</i>	<i>14,535.6</i>
Other liabilities—			
Deposits	83.8	107.0	143.1
Staff provident and superannuation funds(a)	23.7	28.3	31.8
Claims admitted or intimated but not paid	235.4	257.1	273.4
Premiums paid in advance and in suspense	9.4	8.5	7.5
Sundry creditors	92.3	94.1	98.4
Bank overdraft	88.2	118.4	135.1
Reserves and provisions for taxation	179.7	220.4	235.8
All other liabilities	68.4	123.7	96.9
Total liabilities	12,649.2	14,035.6	15,557.6
Assets held in Australia—			
Fixed assets—			
Freehold and leasehold property, office premises	2,275.3	2,564.2	2,867.1
Furniture, etc.	21.2	33.7	35.3
Loans—			
On mortgage	1,330.0	1,338.4	1,320.0
On policies	278.8	295.8	300.9
Other loans	108.0	124.9	152.1
Investments—			
Government securities—			
Australian	2,251.5	2,502.9	2,715.7
Overseas	31.5	36.8	43.4
Securities of local and semi-governmental bodies	864.7	1,008.0	1,132.0
Other investments	2,875.4	3,166.3	3,593.7
Cash on hand, deposit and current account	122.6	105.4	155.7
All other assets	406.3	454.1	495.0
<i>Total assets held in Australia</i>	<i>10,565.3</i>	<i>11,630.5</i>	<i>12,810.5</i>
<i>Total assets held overseas</i>	<i>2,083.9</i>	<i>2,405.0</i>	<i>2,747.1</i>
Total assets	12,649.2	14,035.6	15,557.6

(a) Includes provisions for retirement, long service leave, etc.

LIFE INSURANCE OFFICES: REVENUE AND EXPENDITURE

(\$ million)

	1976	1977	1978
<i>Balance of account at beginning of year—Australia and overseas</i>	10,547.0	11,536.7	12,695.4
Revenue—Australia			
Premium income—			
Ordinary business	787.0	814.5	903.2
Industrial business	58.1	58.0	
Superannuation business	654.4	754.3	861.7
Consideration for annuities	27.9	23.5	24.7
Net interest dividends and rents	588.4	668.6	773.4
Other revenue	173.3	222.4	396.8
<i>Total revenue—Australia</i>	2,289.1	2,541.3	2,959.5
Revenue—overseas			
Premium income	232.6	266.6	304.6
Net interest dividends and rents	135.9	161.2	191.7
Other revenue	118.1	181.7	179.4
<i>Total revenue—overseas</i>	486.6	609.5	675.8
<i>Total revenue</i>	2,775.7	3,150.8	3,635.3
<i>Total</i>	13,322.6	14,687.5	16,330.6
Expenditure—Australia			
Payments on policies—			
Claims	497.8	555.8	629.0
Surrenders	457.1	520.2	574.0
Annuities	3.7	3.3	3.3
Bonuses paid in cash	8.6	10.5	11.3
Expenses of management—			
Commission	138.5	148.9	157.5
Other	216.4	234.3	256.1
All other expenses	177.2	215.8	271.2
<i>Total expenditure—Australia</i>	1,499.3	1,688.8	1,902.5
Expenditure—overseas			
Payments on policies	150.8	187.7	214.9
Expenses of management	76.8	88.3	100.8
All other expenditure	59.0	27.9	33.1
<i>Total expenditure—overseas</i>	286.6	303.9	348.8
<i>Total expenditure</i>	1,785.9	1,992.7	2,251.3
<i>Balance of account at end of year—Australia and overseas</i>	11,536.7	12,694.8	14,079.4
<i>Total</i>	13,322.6	14,687.5	16,330.6

LIFE INSURANCE OFFICES: NEW LOANS PAID OVER^(a) BY CLASS OF SECURITY

(\$ million)

Class of security	1976	1977	1978
Mortgage of real estate	155.8	144.4	164.4
Companies policies	57.4	68.6	63.1
Other	18.8	34.7	57.0

(a) Excludes advances on premiums.

LIFE INSURANCE: SUMMARY

	Insurance and endowment policies			Annuity policies	
	Number of policies	Sum insured (\$ million)	Annual premiums (\$ million)	Number of policies	Annuities per annum (\$ million)
ORDINARY BUSINESS					
New policies issued—					
1976	465,729	9,116.2	101.4	37	0.1
1977	443,759	10,347.8	104.3	12	..
1978(a)	508,014	12,192.9	119.3	22	..
Policies discontinued or reduced(b)—					
1976	514,780	4,455.0	73.5	101	0.1
1977	481,507	4,550.5	74.0	93	0.2
1978(a)	693,711	5,401.8	91.4	121	..
Policies existing at end of—					
1976	5,841,653	44,596.0	771.5	1,473	1.2
1977	5,803,905	50,393.3	801.8	1,392	1.1
1978(a)	7,334,739	58,815.2	888.4	1,293	1.5
INDUSTRIAL BUSINESS					
New policies issued—					
1976	57,896	198.2	6.5	..	..
1977	49,080	184.1	6.1	..	..
1978(c)	n.p.	n.p.	n.p.	n.p.	n.p.
Policies discontinued or reduced(b)—					
1976	215,722	166.6	6.1	..	..
1977	204,904	187.7	6.8	..	..
1978(c)	n.p.	n.p.	n.p.	n.p.	n.p.
Policies existing at end of—					
1976	1,872,355	1,634.2	59.4	..	..
1977	1,716,531	1,630.6	58.7	..	..
1978(c)	n.p.	n.p.	n.p.	n.p.	n.p.
SUPERANNUATION BUSINESS					
New policies issued—					
1976	117,788	7,836.8	181.5	34	19.7
1977	110,667	8,467.7	201.8	31	20.1
1978	98,836	9,422.2	206.8	17	16.9
Policies discontinued or reduced(b)—					
1976	135,512	3,428.3	87.8	238	14.9
1977	105,282	3,856.4	101.1	51	22.4
1978	81,437	4,599.6	118.5	12	18.5
Policies existing at end of—					
1976	679,507	25,369.5	647.0	704	75.9
1977	684,892	29,980.8	747.6	684	73.7
1978	702,291	34,803.3	836.0	689	57.6

(a) Includes 'Industrial business'. (b) Includes policies matured, surrendered, forfeited, transferred to overseas registers, converted to other classes of business, etc. (c) Included in 'Ordinary business'.

GENERAL INSURANCE

The following statistics have been compiled from returns collected under the *Census and Statistics Act 1905* and relate to the operations of:

- (a) *Bodies Corporate* authorised to carry on insurance business under the *Insurance Act 1973* (see page 515);
- (b) *Brokers* in respect of business placed with overseas insurers; and
- (c) *Government instrumentalities*, i.e. State Government Insurance Offices and Commonwealth Government and State Government instrumentalities in respect of their general insurance business.

These statistics are based on the following definitions:

Premiums comprise the full amount receivable in respect of direct insurance and facultative reinsurance business written or renewed during the year, less stamp duty and fire service charges paid and less returns, rebates and bonuses paid or credited to policy holders during the year. They are not adjusted to provide for premiums unearned at the end of the year and consequently the amounts differ from 'earned premium income' appropriate to the year.

Claims comprise, for direct insurance and facultative reinsurance business, payments made during the year plus the estimated amount of outstanding claims at the end of the year less the estimated amount of outstanding claims at the beginning of the year. Salvage and other amounts recoverable have been deducted.

Information contained in the following tables does not relate to uniform accounting periods but to the financial years of the organisations which ended during the years shown.

GENERAL INSURANCE: PREMIUMS AND CLAIMS BY PRINCIPAL CLASS OF BUSINESS

(\$ million)

<i>Class of business</i>	1975-76(a)	1976-77(b)	1977-78
PREMIUMS			
Fire(c)	297.9	315.2	330.8
House Owners' and House-holders'	195.8	214.0	254.5
Contractors' All Risks	14.8	20.1	25.0
Marine and Aviation	86.9	108.2	117.8
Motor Vehicle Comprehensive	595.4	722.4	780.6
Compulsory Third Party (Motor Vehicle)	446.0	529.9	577.4
Employers Liability(d)	942.3	903.4	903.2
Public Liability(e)	57.2	74.3	92.1
All other	190.8	232.6	273.8
Total	2,827.1	3,120.1	3,355.2
CLAIMS			
Fire(c)	129.9	137.8	132.9
House Owners' and House-holders'	97.9	123.5	153.3
Contractors' All Risk	11.3	11.0	11.6
Marine and Aviation	52.8	54.6	60.8
Motor Vehicle Comprehensive	386.2	444.8	545.4
Compulsory Third Party (Motor Vehicle)	427.4	485.1	562.3
Employers Liability(d)	583.4	639.5	658.2
Public Liability(e)	36.3	46.2	49.8
All other	80.3	99.6	132.4
Total	1,805.8	2,042.1	2,306.7

(a) Excludes stamp duty collected, but includes fire service charges. (b) Excludes both stamp duty and fire service charges collected. (c) Includes sprinkler leakage, crop, hailstone and loss of profits insurance. (d) Excludes workers' compensation insurance in the coal mining industry for N.S.W. (e) Includes product liability and professional indemnity insurance.

Summary information on foreign ownership and control of general insurance business is shown in Chapter 24. Overseas Transactions.

UNIT TRUSTS, LAND TRUSTS AND MUTUAL FUNDS

Statistics of operations of unit trusts, land trusts and mutual funds are shown below. Details of superannuation funds conducted by unit trust management companies are not included in these tables.

TRUSTS AND FUNDS: TOTAL MARKET VALUE AND TRANSACTIONS

(\$ million)

	Total market value at end of period(a)	Cash transactions— trust units and fund shares		Purchases and sales of investments(b)	
		Total amount received(c)	Total amount paid(d)	Purchases (e)	Sales (f)
1974-75	356.0	36.9	47.8	38.6	49.3
1975-76	407.6	50.0	30.8	85.3	60.7
1976-77	417.5	48.1	34.4	79.4	69.5
1977-78	488.3	83.9	38.3	91.2	69.1
1978-79	615.7	155.5	37.7	169.3	80.9
1979-80	983.8	363.3	46.2	388.4	89.6

(a) Includes value of land trusts at valuation. (b) Commonwealth Government, local authority and semi-government securities, shares, debentures, unsecured notes, loans, deposits on term or notice of three months or longer, land and buildings, etc. (c) Includes re-issues and new issues. Includes fees and expenses. (d) Includes those units and fund shares intended for re-issue. (e) Payments for assets acquired during period. Includes brokerage and stamp duty. (f) Receipts for assets sold or redeemed during period. Excludes brokerage and stamp duty.

TRUSTS AND FUNDS: ANALYSIS OF PURCHASES AND SALES OF INVESTMENTS

(\$ million)

	Shares (incl. preference shares)	Debentures, unsecured notes, deposits (a)	Land, buildings, mortgages	Other(b)	Total
Purchases—					
1974-75	14.8	8.5	15.3	—	38.6
1975-76	21.2	15.4	39.9	8.8	85.3
1976-77	13.4	12.5	52.3	1.1	79.4
1977-78	14.3	10.4	65.7	0.8	91.2
1978-79	13.2	18.5	136.7	0.9	169.3
1979-80	28.5	13.6	341.6	4.8	388.4
Sales—					
1974-75	14.1	10.7	24.4	0.1	49.3
1975-76	22.3	10.0	26.6	1.8	60.7
1976-77	23.4	17.4	27.3	1.5	69.5
1977-78	26.2	9.4	33.2	0.2	69.1
1978-79	25.8	19.6	34.8	0.6	80.9
1979-80	42.1	12.9	34.1	0.4	89.6

(a) Excludes cash on hand and at bank, loans to authorised dealers in the short-term money market, and other deposits under three months' term or notice. (b) Includes Commonwealth Government, local and semi-government securities.

AUSTRALIAN INDUSTRY DEVELOPMENT CORPORATION

The Australian Industry Development Corporation (AIDC) was established by the *Australian Industry Development Corporation Act 1970* and commenced operations on 1 February 1971. Within the objectives and broad policy guidelines defined in the Act, the Corporation operates as an independent commercial enterprise governed by its own Board of Directors.

The Corporation has a capital of \$100 million, to be subscribed by the Commonwealth Government in instalments but the whole being available if required to meet obligations. The paid-up capital at 30 June 1980 was \$62.5 million.

The central objectives of the Corporation are to promote the development of industries in Australia and support local participation in the ownership and control of industries and resources. Consistent with these objectives and the principle that AIDC must operate on a commercial basis and assist only in ventures which can demonstrate sound prospects, the Corporation provides finance, obtained by borrowing both in Australia and overseas, for Australian firms (including local firms with foreign partners) engaged in industries concerned with the manufacture, processing, treatment, transportation or distribution of goods, or the development or use of natural resources (including the recovery of minerals), or technology and activities that are connected with or incidental to those industries.

The Corporation's financial participation in a venture is governed by the prevailing terms and conditions under which it can itself obtain loan finance. The capital of the Corporation is provided as a base for its borrowings and is not directly used for assistance to industry projects.

The AIDC provides development capital both for start-up situations and for going concerns. Although the greater part of its financing is by loans, it also makes equity investments in industry. Where a company's capital needs can best be met by loan finance, AIDC does not seek an equity position. It aims to avoid involvement in the management of companies to which it provides financing.

Financing commitments approved since operations commenced, totalled \$691 million at 30 June 1980, and operational loans and investments outstanding were \$368 million.

INSTALMENT CREDIT FOR RETAIL SALES

Information relating to instalment credit for retail sales in Australia is given in the following tables. More detailed information may be found in the monthly publication *Instalment Credit for Retail Sales, Australia* (5631.0).

These statistics cover the operations of instalment credit schemes which relate primarily to the financing of retail sales of consumer commodities. In general, the term instalment credit is defined as relating to schemes in which repayment is made by regular predetermined instalments (predetermined by amount or by percentage of amount financed or balance outstanding). Types of instalment credit schemes covered include hire purchase, time payment, budget accounts and personal loans where these schemes relate to the financing of retail sales of consumer commodities.

Figures for amounts financed exclude interest, hiring charges, insurance, etc. Figures for balances outstanding and collections include interest, hiring charges, insurance, etc.

The break in series in the following tables was due to the inclusion, from July 1978, of only those finance companies with balances outstanding (individually, or as a group of related finance companies) of \$5 million or more. In previous years the size criteria for inclusion was balances outstanding of \$500,000 or more. The impact of this change on the statistics was minimal.

INSTALMENT CREDIT FOR RETAIL SALES BY TYPE OF BUSINESS: AMOUNT FINANCED BY COMMODITY GROUP, COLLECTIONS AND BALANCES OUTSTANDING, AUSTRALIA

(\$ million)

	Amount financed during year					Collections and other liquidations of balances during year	Balances outstanding at end of year
	Motor cars and station wagons		Other motor vehicles (a)	Household and personal goods	Total		
	New	Used					
Finance companies—							
1977-78	399.8	640.0	164.5	312.6	1,516.9	1,990.8	2,804.0
1978-79	389.5	684.2	164.7	307.2	1,545.5	2,146.1	2,898.3
1979-80	359.9	609.5	146.0	329.0	1,444.3	2,159.9	2,864.8
Other businesses (b)—							
1977-78	0.1	0.1	0.4	230.4	231.0	263.4	150.4
1978-79	—	0.1	0.4	209.9	210.4	241.3	142.4
1979-80	—	0.1	0.4	211.1	211.7	230.3	137.6
Total all businesses—							
1977-78	399.9	640.1	164.9	543.0	1,747.8	2,254.2	2,954.4
1978-79	389.5	684.2	165.1	517.1	1,755.9	2,387.5	3,040.7
1979-80	359.9	609.6	146.4	540.1	1,656.0	2,390.2	3,002.4

(a) Includes new and used motor cycles, boats, caravans, trailers and motor parts and accessories but excludes panel vans, utilities, trucks, tractors and other vehicles normally used for commercial purposes. (b) Businesses operating retail establishments, unincorporated finance businesses and businesses other than wholesalers and manufacturers.

**INSTALMENT CREDIT FOR RETAIL SALES BY TYPE OF CREDIT: AMOUNT
FINANCED BY COMMODITY GROUP, AUSTRALIA**

(\$ million)

	<i>Motor cars and station wagons</i>		<i>Other motor vehicles (a)</i>	<i>Household and personal goods</i>	<i>Total</i>
	<i>New</i>	<i>Used</i>			
Hire purchase—					
1977-78	306.5	481.1	124.4	141.1	1,053.1
1978-79	303.3	534.0	124.7	132.9	1,095.0
1979-80	286.2	468.7	106.8	151.2	1,012.9
Other instalment credit—					
1977-78	93.4	159.0	40.4	401.9	694.7
1978-79	86.2	150.3	40.3	384.2	661.0
1979-80	73.7	140.8	39.5	389.0	643.0
Total instalment credit—					
1977-78	399.9	640.1	164.9	543.0	1,747.8
1978-79	389.5	684.2	165.1	517.1	1,755.9
1979-80	359.9	609.6	146.4	540.1	1,656.0

(a) Includes new and used motor cycles, boats, caravans, trailers and motor parts and accessories but excludes panel vans, utilities, trucks, tractors and other vehicles normally used for commercial purposes.

HOUSING FINANCE FOR OWNER OCCUPATION

A monthly statistical series was introduced in October 1975 to provide information on finance (secured by mortgage or other security, including secured personal loans and loans secured by contracts of sale) approved by significant lenders to individuals for the construction or purchase of dwellings for owner occupation. A lender is significant if over a financial year it approves loans to individuals for housing finance for owner occupation in excess of \$250,000 or if at the end of a financial year it has balances outstanding on such loans exceeding \$2 million.

The types of lenders considered in these statistics are trading and savings banks, permanent and terminating building societies, finance companies, government housing authorities and other government departments, insurance companies and credit unions.

The tables on pages 537-9 provide information classified by type of lender and the use for which approved housing loans are intended (e.g. construction or purchase).

Purchase of newly erected dwellings represents the purchase of dwellings which have been completed or will be completed within a period of twelve months preceding the date of purchase and where the purchaser is, or will be, the first occupant.

Purchase of established dwellings represents the purchase of dwellings which have been completed for a period of greater than twelve months preceding the date of purchase or, if completed within twelve months, where the purchaser is not the original occupant.

The term *dwelling* includes houses and other dwellings where the latter is defined as a self-contained dwelling unit other than a house. (Examples of *other dwellings* are flats, home units, semi-detached cottages, villa units, town houses, etc.).

The term *number of dwelling units* refers to the number of houses and other dwellings for which loans secured by contract of sale or first mortgage only have been approved.

Comprehensive statistics on housing finance for owner occupation are available in the monthly publication *Housing Finance for Owner Occupation, Australia* (5609.0).

The following table summarises the housing finance operations of the significant lenders.

HOUSING FINANCE FOR OWNER OCCUPATION
(£ million)

	<i>Loans approved for—</i>		<i>Cancellations of loans previously approved</i>	<i>Loans advanced(a)</i>	<i>Loans approved but not advanced(a)</i>
	<i>Construction or purchase of dwellings</i>	<i>Alterations and additions</i>			
1977-78	5,535.5	379.7	258.5	4,761.8	973.3
1978-79	6,472.0	398.1	283.4	5,455.6	1,112.7
1979-80	7,016.9	434.0	320.3	5,968.0	1,253.4
Quarter ended—					
March 1979	1,729.8	98.5	76.2	1,328.3	1,196.4
June 1979	1,651.4	102.5	81.5	1,503.6	1,112.7
September 1979	1,651.9	104.7	78.7	1,391.7	1,151.0
December 1979	1,682.3	104.9	74.5	1,535.5	1,088.2
March 1980	1,848.4	105.2	78.0	1,397.5	1,304.3
June 1980	1,834.3	119.1	89.1	1,643.2	1,253.4

(a) Excludes Trading Banks; data not available.

**HOUSING FINANCE FOR OWNER OCCUPATION: NUMBER OF DWELLING UNITS FOR WHICH
LOANS WERE APPROVED TO INDIVIDUALS BY TYPE OF LENDER**

	<i>Banks</i>		<i>Building societies</i>			<i>Government</i>	<i>Credit unions and insurance companies</i>	<i>Total</i>
	<i>Savings</i>	<i>Trading</i>	<i>Per- manent</i>	<i>Ter- minating</i>	<i>Finance companies</i>			
CONSTRUCTION OF DWELLINGS								
1977-78	18,726	7,564	8,904	2,712	2,391	1,861	1,147	43,305
1978-79	20,080	8,753	10,107	2,505	2,084	1,553	1,334	46,416
1979-80	21,679	9,031	10,794	1,753	1,870	1,770	1,486	48,383
Quarter ended—								
March 1979	4,764	2,350	2,424	751	534	395	266	11,484
June 1979	5,577	2,342	2,550	543	446	480	320	12,258
September 1979	5,868	2,415	2,777	371	481	441	432	12,785
December 1979	5,176	2,224	2,647	484	487	410	394	11,822
March 1980	5,084	2,208	2,419	512	452	453	345	11,473
June 1980	5,551	2,184	2,951	386	450	466	315	12,303
PURCHASE OF NEWLY ERECTED DWELLINGS								
1977-78	12,845	5,945	10,396	3,118	1,969	5,652	1,011	40,936
1978-79	12,001	5,246	11,169	2,113	1,977	3,479	1,284	37,269
1979-80	11,146	4,114	10,771	1,495	1,649	4,049	1,310	34,534
Quarter ended—								
March 1979	2,996	1,393	3,010	456	486	865	305	9,511
June 1979	2,913	1,154	2,516	492	641	857	299	8,872
September 1979	3,056	1,154	2,525	439	471	1,205	373	9,223
December 1979	2,828	1,012	2,840	349	389	954	359	8,731
March 1980	2,803	983	2,833	395	389	914	309	8,626
June 1980	2,459	965	2,573	312	400	976	269	7,954
PURCHASE OF ESTABLISHED DWELLINGS								
1977-78	72,436	24,854	46,043	4,506	5,914	6,985	4,127	164,865
1978-79	79,330	29,953	54,507	3,122	7,660	6,212	6,127	186,911
1979-80	79,905	30,593	57,776	3,321	7,553	6,440	7,744	193,332
Quarter ended—								
March 1979	20,885	8,419	15,264	758	1,718	1,651	1,454	50,149
June 1979	20,175	7,465	13,118	755	2,265	1,835	1,568	47,181
September 1979	20,038	7,517	12,570	724	1,742	1,338	1,841	45,770
December 1979	19,015	7,383	14,088	891	1,785	1,553	2,063	46,778
March 1980	21,401	7,953	15,630	978	1,937	1,689	1,958	51,546
June 1980	19,451	7,740	15,488	728	2,089	1,860	1,882	49,238

**HOUSING FINANCE FOR OWNER OCCUPATION: NUMBER OF DWELLING UNITS FOR WHICH
LOANS WERE APPROVED TO INDIVIDUALS BY TYPE OF LENDER—continued**

	<i>Banks</i>		<i>Building societies</i>		<i>Finance companies</i>	<i>Government</i>	<i>Credit unions and insurance companies</i>	<i>Total</i>
	<i>Savings</i>	<i>Trading</i>	<i>Per- manent</i>	<i>Ter- minating</i>				
TOTAL								
1977-78	104,007	38,363	65,343	10,336	10,274	14,498	6,285	249,106
1978-79	111,411	43,952	75,783	7,740	11,721	11,244	8,745	270,596
1979-80	112,730	43,738	79,341	6,569	11,072	12,259	10,540	276,249
Quarter ended—								
March 1979	28,645	12,162	20,698	1,965	2,738	2,911	2,025	71,144
June 1979	28,665	10,961	18,184	1,790	3,352	3,172	2,187	68,311
September 1979	28,962	11,086	17,872	1,534	2,694	2,984	2,646	67,778
December 1979	27,019	10,619	19,575	1,724	2,661	2,917	2,816	67,331
March 1980	29,288	11,144	20,882	1,885	2,778	3,056	2,612	71,645
June 1980	27,461	10,889	21,012	1,426	2,939	3,302	2,466	69,495

**HOUSING FINANCE FOR OWNER OCCUPATION: VALUE OF LOANS APPROVED TO INDIVIDUALS
BY TYPE OF LENDER**
(\$ million)

	<i>Banks</i>		<i>Building societies</i>		<i>Finance companies</i>	<i>Government</i>	<i>Credit unions and insurance companies</i>	<i>Total</i>
	<i>Savings</i>	<i>Trading</i>	<i>Per- manent</i>	<i>Ter- minating</i>				
CONSTRUCTION OF DWELLINGS								
1977-78	381.2	123.8	244.4	64.1	65.7	36.4	28.1	943.7
1978-79	463.0	165.7	293.2	63.7	62.1	34.9	32.9	1,115.5
1979-80	535.1	175.7	338.8	47.0	66.0	42.6	36.5	1,241.7
Quarter ended—								
March 1979	111.7	43.8	71.6	19.0	16.8	9.2	6.5	278.5
June 1979	131.3	45.2	76.0	14.2	13.3	11.1	8.3	299.4
September 1979	143.0	46.8	84.2	10.0	16.0	10.3	10.3	320.7
December 1979	125.7	39.9	82.0	12.9	17.9	9.5	9.3	297.3
March 1980	125.7	43.8	76.2	13.4	16.3	11.2	8.6	295.3
June 1980	140.6	45.2	96.3	10.7	15.7	11.7	8.2	328.5
PURCHASE OF NEWLY ERECTED DWELLINGS								
1977-78	271.6	102.1	288.4	72.8	71.4	121.2	24.8	952.3
1978-79	275.5	100.2	337.3	52.8	66.0	81.2	30.9	943.8
1979-80	265.0	79.0	343.4	39.2	66.1	96.1	31.7	920.5
Quarter ended—								
March 1979	69.6	29.1	92.9	11.4	15.6	20.5	7.7	246.9
June 1979	67.0	21.9	78.0	12.4	20.5	19.1	6.9	225.8
September 1979	73.5	22.2	75.5	11.5	17.3	28.5	9.0	237.3
December 1979	67.5	18.9	90.2	8.8	14.7	22.4	8.9	231.4
March 1980	66.0	19.5	91.9	10.4	16.7	21.4	7.5	233.5
June 1980	58.0	18.4	85.9	8.4	17.4	23.9	6.3	218.2
PURCHASE OF ESTABLISHED DWELLINGS								
1977-78	1,486.9	449.1	1,167.2	104.6	185.2	138.6	107.9	3,639.5
1978-79	1,794.1	549.7	1,465.9	78.1	239.5	139.9	145.6	4,412.8
1979-80	1,897.3	578.8	1,682.1	88.3	273.6	140.6	194.2	4,854.8
Quarter ended—								
March 1979	481.4	158.8	417.8	19.0	53.5	38.7	35.1	1,204.4
June 1979	461.5	135.3	358.7	19.4	70.8	39.7	40.8	1,126.2
September 1979	460.0	141.5	345.6	19.2	57.4	27.5	42.8	1,093.9
December 1979	450.3	133.6	398.5	22.6	64.0	33.3	51.4	1,153.6
March 1980	515.8	152.6	467.4	26.5	69.9	37.2	50.2	1,319.7
June 1980	471.2	151.1	470.6	20.0	82.3	42.7	49.7	1,287.6

HOUSING FINANCE FOR OWNER OCCUPATION: VALUE OF LOANS APPROVED TO INDIVIDUALS
BY TYPE OF LENDER—*continued*
(\$ million)

	<i>Banks</i>		<i>Building societies</i>		<i>Finance companies</i>	<i>Government</i>	<i>Credit unions and insurance companies</i>	<i>Total</i>
	<i>Savings</i>	<i>Trading</i>	<i>Per- manent</i>	<i>Ter- minating</i>				
TOTAL								
1977-78	2,139.8	675.0	1,700.0	241.5	322.2	296.2	160.8	5,535.5
1978-79	2,532.6	815.6	2,096.3	194.5	367.5	256.1	209.4	6,472.0
1979-80	2,697.3	833.4	2,364.3	174.6	405.6	279.4	262.3	7,016.9
Quarter ended—								
March 1979	662.7	231.7	582.4	49.4	85.9	68.4	49.3	1,729.8
June 1979	659.7	202.4	512.7	46.0	104.6	69.9	56.0	1,651.4
September 1979	676.4	210.4	505.2	40.7	90.8	66.2	62.1	1,651.9
December 1979	643.5	192.4	570.7	44.4	96.5	65.1	69.7	1,682.3
March 1980	707.6	216.0	635.5	50.4	102.9	69.8	66.3	1,848.4
June 1980	669.8	214.6	652.9	39.1	115.4	78.3	64.1	1,834.3

NEW CAPITAL RAISINGS BY COMPANIES LISTED ON AUSTRALIAN STOCK EXCHANGES

Information relating to capital raised by companies listed on Australian Stock Exchanges is given in the following tables.

These statistics cover capital raised through share and debenture subscriptions and by way of deposits, unsecured notes and loans secured over the entire assets of the company. The following funds are excluded from the collection: (i) all capital raised from Australian banks (other than direct equity investment), i.e. overdrafts, mortgage loans, term loans or debentures; (ii) temporary advances or short-term deposits from any source; and (iii) complete or partial issues by Australian companies on overseas markets taken up through overseas brokers.

Listed companies are companies incorporated in Australia whose shares, debentures or other securities are listed on one or more of the Australian Stock Exchanges. For such companies new capital includes: (a) all issues of ordinary shares if any ordinary shares are listed; (b) all issues of preference shares if any preference shares are listed; and (c) all issues of debentures, unsecured notes, secured and unsecured loans and deposits if any shares or other securities are listed.

The following notes relate to specific items in the tables:

New money

This is the net amount of cash transferred from the 'investing public' to the 'company sector'. For this purpose the *investing public* is defined to include all non-company subscribers; Australian life insurance companies, Commonwealth Government and private superannuation funds and banks. In practice, it is necessary to include in *new money* most subscriptions by companies holding less than 5 per cent of the ordinary shares of an issuing company as it is not practicable to separately identify all such subscriptions. However, where large subscriptions by companies holding less than 5 per cent of the ordinary shares in the issuing company are identified they are not included in *new money*. Subscriptions by Australian life insurance companies and Commonwealth Government and private superannuation funds are included in *new money* irrespective of their holdings of ordinary shares in the issuing company.

Amount not involving new money

This amount includes cash subscriptions received by issuing companies from associated companies. Also included are amounts which, although subscribed by the 'investing public' (i.e. subscribers other than 'associated companies'), are not retained by the issuing company or its associates, but are used to redeem shares, debentures or unsecured notes, etc., or are used to purchase from individuals existing shares, debentures, etc., in other companies, including existing shares, etc. in associated and subsidiary companies, and therefore do not represent a net transfer of cash from the 'investing public' to the companies. In the tables which follow, the *amount not involving new money* is obtained by deducting from the total cash raised the amount of *new money*.

LISTED COMPANIES: NEW CAPITAL RAISED THROUGH ISSUES OF SHARES^(a) AND THROUGH DEBENTURES, REGISTERED NOTES, LOANS AND DEPOSITS

(\$ million)

Share capital									
Total amount of issues commenced				Cash raised during period			Debentures, registered notes, etc.		
Total amount including premiums etc.		Type of consideration		Total(c)	Amount not involving new money	New money	Total amount raised (d)	Amount not involving new money (d)	New money
		Other than cash(b)	Cash						
1974-75	399.4	122.3	277.1	296.7	125.6	171.1	6,310.6	5,362.0	948.6
1975-76	513.3	129.8	383.5	387.7	55.3	332.3	5,046.7	3,952.2	1,094.4
1976-77	832.5	278.9	553.6	524.3	53.0	471.3	7,488.7	6,279.0	1,209.6
1977-78	793.3	295.1	498.0	539.3	189.7	349.6	6,734.8	5,615.7	1,119.3
1978-79	919.5	372.9	546.5	513.1	183.0	330.2	7,532.1	6,653.7	878.4
1979-80	2,185.6	805.9	1,379.7	1,330.6	258.7	1,071.9	9,372.3	7,917.4	1,454.9

(a) Includes share subscriptions by overseas investors to issues in Australia. (b) Includes bonus issues, conversion issues, issues in exchange for existing shares, etc. (c) Includes calls on issues commenced in earlier years. (d) Includes conversions, renewals, etc.

LISTED COMPANIES: NEW MONEY RAISED IN SHARE CAPITAL AND DEBENTURES, REGISTERED NOTES, LOANS AND DEPOSITS—INDUSTRY GROUPS

(\$ million)

		1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Manufacturing ^(a) . . .	<i>Total</i>	452.2	257.1	329.1	276.9	398.3	826.5
Raised through . . .	Shares	84.3	115.0	181.7	142.3	95.8	419.6
	Debentures, etc.	368.1	142.1	147.4	134.6	302.5	406.9
Finance and property ^(b) . . .	<i>Total</i>	439.6	921.8	1,151.9	1,008.2	680.2	1,006.8
Raised through . . .	Shares	18.1	68.5	212.2	100.9	74.3	114.6
	Debentures, etc.	421.6	853.3	939.7	907.3	605.9	892.2
Commerce ^(c)	<i>Total</i>	125.2	78.3	40.8	92.4	18.1	141.6
Raised through . . .	Shares	36.0	57.5	9.5	41.9	9.9	55.3
	Debentures, etc.	89.2	20.8	31.3	50.5	8.2	86.3
Other industries ^(d) . . .	<i>Total</i>	102.5	169.5	159.1	91.1	111.8	552.0
Raised through . . .	Shares	32.7	91.3	68.1	64.5	150.2	482.5
	Debentures, etc.	69.8	78.2	91.0	26.6	(e)-38.4	69.5
All industries	Total	1,119.7	1,426.7	1,680.9	1,468.9	1,208.6	2,526.8
Raised through	Shares	171.1	332.3	471.3	349.6	330.2	1,071.9
	Debentures, etc.	948.6	1,094.4	1,209.6	1,119.3	878.4	1,454.9

(a) Includes extracting, refining, founding, engineering, metalworking, electrical equipment, etc., vehicles, aircraft and ships, parts and accessories, assembly and repairs. (b) Includes share capital raised by banks and insurance companies. (c) Includes oil distribution and primary produce dealing. (d) Includes primary production, mining and quarrying. (e) Excess of repayments over receipts.

LOTTERIES AND BETTING

Lotteries

The State Governments of New South Wales, Queensland, South Australia and Western Australia operate lotteries in their own States. Tattersall Sweep Consultations operate under government licence in Victoria and also sell tickets under government licence in Tasmania and New Zealand. Tickets for any of these lotteries may also be sold in the Northern Territory and the Australian Capital Territory. The statistics of sales of tickets and prizes include the sales and allotments of prizes in New Zealand, Tasmania, the Northern Territory and the Australian Capital Territory. In general, revenue derived by the State Governments from these lotteries is used directly or indirectly to provide funds for expenditure on hospitals, charities, etc.

**LOTTERIES: VALUE OF TICKET SALES, PRIZES ALLOTTED, TAXES PAID
AND OTHER NET CONTRIBUTIONS TO STATE GOVERNMENT REVENUES**
(*\$ million*)

	<i>Ticket sales</i>	<i>Prizes allotted</i>	<i>Taxes and other net con- tributions to State Govern- ment revenues (a)</i>
1978-79			
New South Wales	108.3	70.0	38.4
Victoria	285.7	170.0	89.0
Queensland	41.4	26.5	9.8
South Australia	43.4	26.3	14.3
Western Australia	21.4	14.5	5.8
Total	500.3	307.3	157.4
1977-78	424.5	261.3	133.0
1976-77	364.8	224.5	113.7
1975-76	289.5	176.9	90.9
1974-75	227.2	140.2	60.4
1973-74	159.7	98.4	40.7

(a) Includes grants to Tasmanian and New Zealand Governments by Tattersalls Sweep Consultations, Victoria.

Betting

TOTALISATOR INVESTMENTS AND INVESTMENTS WITH LICENSED BOOKMAKERS
(*\$ million*)

	<i>1976-77</i>		<i>1977-78</i>		<i>1978-79</i>	
	<i>T.A.B.</i>	<i>Book- makers</i>	<i>T.A.B.</i>	<i>Book- makers</i>	<i>T.A.B.</i>	<i>Book- makers</i>
New South Wales	796.2	601.7	931.6	665.7	1,001.5	732.5
Victoria	636.8	450.2	672.0	476.9	698.5	495.9
Queensland	229.5	340.5	235.2	346.3	267.1	378.3
South Australia	116.9	174.4	118.0	184.6	117.7	179.7
Western Australia	188.3	73.3	209.7	91.1	226.5	105.7
Tasmania	33.3	47.7	39.4	45.5	42.1	47.3
Australian Capital Territory	25.3	20.4	27.7	19.9	27.0	n.y.a.
Total	2,026.3	1,708.0	2,233.5	1,830.0	2,380.3	n.y.a.

RELATED PUBLICATIONS

Current and more detailed information on the subjects dealt with in this chapter is contained in the following publications:

Monthly Summary of Statistics, Australia (1304.0) *Savings Banks, Australia* (5602.0) (monthly) *Major Trading Banks, Australia* (5603.0) (monthly) *Banking, Australia* (5605.0) (quarterly) *Housing Finance for Owner Occupation, Savings Banks and Trading Banks, Australia* (5608.0) (monthly) *Housing Finance for Owner Occupation, Australia* (5609.0) (monthly) *Housing Finance for Owner Occupation, Permanent Building Societies, Australia* (5610.0) (monthly) *Finance Companies, Australia* (5614.0) (monthly) *Finance Companies: Assets, Liabilities, Income and Expenditure, Australia* (5616.0) (annual) *Financial Corporations Statistics, Australia* (5617.0) (monthly) *Credit Unions: Assets, Liabilities, Income and Expenditure, Australia* (5618.0) (annual) *General Insurance, Australia* (5620.0) (annual) *Life Insurance, Australia* (5621.0) (monthly) *Life Insurance, Australia* (5622.0) (annual) *Unit Trusts, Land Trusts and Mutual Funds, Australia* (5624.0) (quarterly) *New Capital Raisings by Companies Listed on Australian Stock Exchanges* (5628.0) (quarterly) *Installment Credit for Retail Sales, Australia* (5631.0) (monthly) *Permanent Building Societies: Assets, Liabilities, Income and Expenditure, Australia* (5632.0) (annual) *Terminating Building Societies: Assets, Liabilities, Income and Expenditure, Australia* (5633.0) (annual).

CHAPTER 22

PUBLIC FINANCE

This chapter deals with the financial activities of the organisations which make up the three levels of government in the Australian political system—Commonwealth, State and Local—and which collectively constitute the public sector. An account is given of the activities of each level of government, with particular emphasis being given to Commonwealth authorities. Tables are then presented which bring together the transactions of all public authorities to highlight the role in the Australian economy of the public sector as a whole. Then follows a section on government borrowing activities at all levels.

COMMONWEALTH GOVERNMENT FINANCE

Financial provisions of the Constitution

The main provisions of the Constitution relating to the initiation and development of the financial system of the Commonwealth of Australia are contained in Sections 81 to 105A of the Commonwealth Constitution (*see* pages 18–21 of Year Book No. 62).

Two other sections which have a most important bearing on questions of Commonwealth finance are Sections 69 and 51. Section 69 provides for the transfer from the States to the Commonwealth of certain specified departments, and Section 51, in outlining the powers of the Commonwealth Parliament, implies the transfer or creation of other departments.

Sections 87 and 96 of the Constitution deal with the financial relations between the Commonwealth and the States. The full text of the Financial Agreement of 1927 was given in Year Book No. 31, page 21; accounts of this Agreement as affected by subsequent Agreements were included in later issues of the Year Book up to No. 37 (*see* pages 685–90); details of the main provisions appeared in further issues of the Year Book up to No. 50 (*see* pages 952–3); and details of current provisions for financial assistance to the States are given on pages 555–560 of this Year Book.

The *Audit Act* 1901 lays down the procedure which must be followed in accounting for the receipt and disbursement of public funds. The general administration of Commonwealth Government finances is the responsibility of the Commonwealth Minister for Finance.

Commonwealth Government Budget

The Commonwealth Government Budget records the transactions of those authorities of the Commonwealth Government whose receipts and payments are summarised in the statements of Public Account balances. In 1979–80 the change in cash balances was represented by the following—

	\$'000
Cash receipts of the Consolidated Revenue Fund	29,627,349
<i>plus</i> cash receipts of Loan Fund	25,228,260
<i>plus</i> cash receipts of Trust Fund	10,920,678
<i>Total</i>	65,776,288
<i>less</i> cash payments from Consolidated Revenue Fund	29,627,349
<i>less</i> cash payments from Loan Fund	25,548,856
<i>less</i> cash payments from Trust Fund (including increase in investments of the Trust Fund)	11,257,671
<i>Total</i>	66,433,876
<i>equals</i> decrease in cash balances	657,588

Revenues from taxation and other sources are paid into the Consolidated Revenue Fund, from which the main expenditures are for defence, social services, payments to the States and general administration. The Trust Fund covers special transactions outside the ordinary operations of departmental expenditures, such as pension funds and moneys held for expenditure by the Commonwealth Government at some future time. The Loan Fund receives its funds from the sale of Commonwealth Government securities, and the expenditures from the Fund are made in accordance with the purpose of issue

of each loan. The main disbursements from the Loan Fund are to the States by way of distribution of the proceeds of loans raised by the Commonwealth Government on their behalf and by capital assistance grants, the remaining disbursements being mainly for Commonwealth Government purposes.

The receipts and outlay of the Budget for 1980-81 are set out in the table which follows, together with figures for the years 1975-76 to 1979-80. The national accounting presentation of the Budget is shown in order to be consistent with other transactions figures given in this chapter.

It should be noted that some transactions undertaken by authorities covered by the Budget are not reflected in the change in cash balances, usually because they are not cash transactions or because a receipt and a payment are offset against each other so that only a net amount is included in published totals. The national accounting presentation of the Budget includes these additional transactions, further details of which may be found in Budget Paper No. 10, *National Accounting Estimates of Receipts and Outlays of Commonwealth Government Authorities*.

OUTLAYS AND RECEIPTS OF THE COMMONWEALTH BUDGET

(\$ million)

(Source: 1980-81 Budget Paper No. 10 *National Accounting Estimates of Receipts and Outlays of Commonwealth Government Authorities*)

	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81 Budget Estimates
Outlay—						
Net expenditure on goods and services—						
Current	4,058	4,635	5,177	5,628	6,161	7,262
Capital(a)	564	520	451	331	323	396
Total	4,622	5,155	5,628	5,960	6,484	7,658
Transfer payments—						
Cash benefits to persons	6,089	7,388	8,277	9,104	9,899	11,234
Unfunded employee retirement benefits	106	121	139	162	181	211
Grants to States and local government authorities	7,091	7,661	8,738	9,349	10,302	11,450
Grants to the Northern Territory	—	—	53	290	361	471
Interest paid	968	1,412	1,649	1,971	2,223	2,409
Transfers overseas	370	388	417	477	520	568
Subsidies	254	220	322	365	566	738
Grants for private capital purposes	173	101	124	116	164	148
Purchase of existing assets	26	16	15	22	20	40
Total	15,077	17,307	19,735	21,856	24,235	27,269
Total expenditure	19,699	22,462	25,363	27,816	30,719	34,927
Net advances—						
States	1,372	1,278	1,261	1,129	817	816
Northern Territory	—	—	—	—2	79	84
Commonwealth authorities	708	303	101	66	110	172
Other sectors	81	79	76	37	—31	38
Total	2,161	1,660	1,438	1,230	975	1,110
Total outlay	21,861	24,123	26,802	29,045	31,694	36,037
Receipts—						
Taxation—						
Indirect taxes	4,877	5,523	5,834	7,178	8,584	9,955
Income tax on companies	2,618	2,921	3,213	3,151	3,548	4,660
Income tax on persons	9,219	11,054	12,129	12,804	15,040	17,070
Estate and gift duties	86	87	102	83	49	22
Other direct taxes, fees, fines, etc.	11	14	15	18	19	22
Unfunded employee retirement contributions	40	52	61	63	67	69
Less remissions	8	8	8	8	1	1
Total	16,843	19,642	21,346	23,288	27,305	31,796
Other receipts—						
Interest, rent and dividends	1,405	1,626	1,812	1,923	2,033	2,217
Gross income of public enterprises	—3	85	225	299	264	277
Net sales of existing assets(b)	30	30	86	58	58	181
Total	1,433	1,741	2,122	2,279	2,356	2,675
Total receipts	18,276	21,383	23,468	25,567	29,661	34,471
Deficit	3,585	2,740	3,333	3,478	2,034	1,566

(a) Expenditure on new fixed assets plus increase in stocks less sales of previously rented houses. (b) Excludes sales of previously rented houses. Includes sales from the Commonwealth's uranium stockpile in 1977-78 (\$63.6m), 1978-79 (\$33.2m), 1979-80 (\$34.1m) and 1980-81 (\$7.6m).

Financing of the Commonwealth Government deficit

The deficit shown in the last line of the preceding table represents the net excess of Budget outlay over receipts. In other words, the estimated deficit shown for 1980-81 represents the Commonwealth

Government budget sector's 'financing requirements'. Most such transactions involve the issue, repurchase, redemption or acquisition of Commonwealth Government securities, but some involve or are represented by changes in other assets or liabilities of the Commonwealth Government.

Specifically the deficit is financed as follows:

Net sales of Commonwealth Government securities (new issues *less* redemptions *less* net purchases from Commonwealth Government balances in the Trust Fund);
less net purchases of other investments from Commonwealth Government balances in the Trust Fund
plus minor items of indebtedness (such as borrowing by Australian Capital Territory housing trust account)
less net additions to cash balances, and funds provided for the International Monetary Fund and the Australian Wheat Board.

A table summarising the financial transactions of the Commonwealth Government budget sector for recent years is given on page 287 of Statement No. 6 attached to the *Budget Speech* 1980-81.

COMMONWEALTH AUTHORITIES

In addition to the group of authorities of the Commonwealth Government whose transactions are covered by the Budget (i.e. itemised in the Consolidated Revenue Fund, the Loan Fund, or recorded in a Trust Fund), there are a number of organisations owned or controlled by the Commonwealth Government whose transactions do not, for the most part, pass through the Public Account. This category includes public enterprises such as the Australian Postal Commission, Australian Telecommunications Commission, Overseas Telecommunications Commission, Qantas, Trans-Australia Airlines, the Australian Shipping Commission, the Snowy Mountains Hydro-electric Authority, the Reserve Bank and the Commonwealth Banking Corporation. Public enterprises, it should be noted, are bodies which aim at covering the bulk of their expenses by revenue either from sales of goods and services (trading enterprises), or by charges for services and net interest receipts (financial enterprises). As well as these enterprises, there are other public authorities which record most of their transactions outside the Public Account but have only minor independent sources of revenue and are financed almost entirely from funds voted to them each year from the Consolidated Revenue Fund. In order that the national accounting presentation may indicate as completely as possible the direct effect of the budget on demand, appropriations to this last group of authorities are treated as final expenditure in the Budget. Authorities in this category include the Australian Broadcasting Commission, Australian National University, National Capital Development Commission, and the Australian Atomic Energy Commission.

The transactions of Commonwealth Government bodies not covered by the Budget may be brought together and consolidated with the transactions recorded in the Budget to yield figures of the transactions of all Commonwealth Federal authorities. The remaining tables in this section have been prepared on that basis.

Public financial enterprises have been omitted from the consolidated accounts presented here largely on the ground that combining the income and outlay and capital financing transactions of the Reserve Bank, the publicly owned trading and savings banks, government insurance offices and other public financial institutions with the equivalent transactions of public trading enterprises and general government seems to provide a less meaningful account of public sector activity. For example, omission of the borrowing and lending activities of the government banks and the Reserve Bank allows attention to be centred on the borrowing and lending activities of general government and public trading enterprises, which are quite different in nature and economic effect from the financing activities of the banking system.

Coverage—Northern Territory government authorities

On 1 July 1978 the Northern Territory became self-governing with expenditure responsibilities and revenue raising powers broadly approximating those of a State. In public authority finance statistics Northern Territory government authorities will be grouped with State and local authorities from 1978-79 onwards. This results in a discontinuity in time series for the financial transactions of Commonwealth Government authorities because:

- In the period up to and including 1977-78 Commonwealth spending on State-type services in the Northern Territory is included under the various Commonwealth outlay categories such as final consumption expenditure and gross capital formation. Similarly, State-type taxation and income from N.T. public enterprises is included in the respective Commonwealth receipt categories.

- From 1978-79 onwards Commonwealth spending in respect of the Northern Territory consists to a large extent of grants and advances to Northern Territory government authorities while State-type taxation and income from N.T. public enterprises are no longer part of Commonwealth receipts.
- Not all State-type functions were fully transferred to the Northern Territory Government from 1 July 1978. Responsibility for health services was transferred on 1 January 1979 and responsibility for education services was transferred from 1 July 1979. The Commonwealth retains responsibility for certain State-type matters such as uranium mining and Aboriginal affairs (other than provision of services to Aboriginal communities).

COMMONWEALTH AUTHORITIES, 1978-79

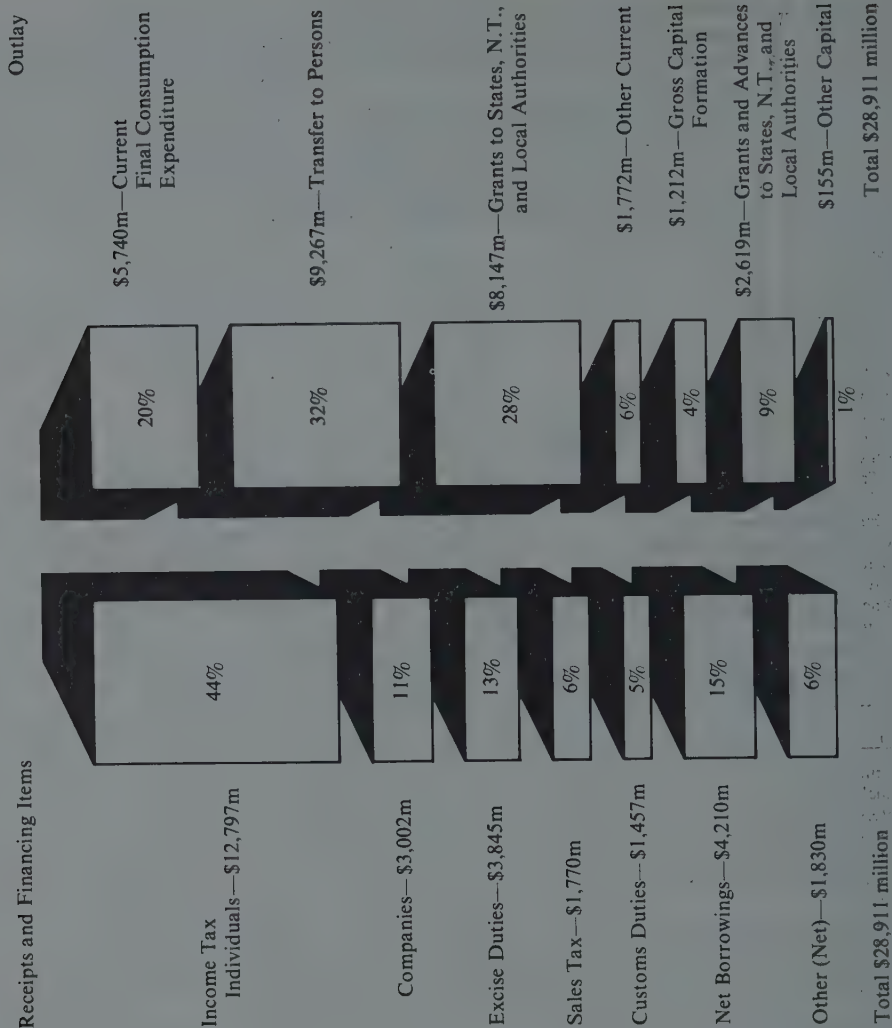


PLATE 43

Summary of receipts and outlay

The receipts and outlay, and outlay classified by purpose, of all Commonwealth authorities for the latest six-year period are given in the following tables.

COMMONWEALTH AUTHORITIES(a): RECEIPTS AND OUTLAY

(\$ million)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
RECEIPTS AND FINANCING ITEMS						
Receipts—						
Taxes, fees, fines, etc.	10,917	14,212	16,938	19,806	21,501	23,534
Income from public enterprises	284	246	434	657	820	1,007
Interest, etc., received	87	88	119	156	200	182
<i>Total receipts</i>	<i>11,288</i>	<i>14,545</i>	<i>17,491</i>	<i>20,619</i>	<i>22,522</i>	<i>24,723</i>
Financing items—						
Depreciation allowances	255	279	406	442	494	550
Funds provided for (-), or received from (+), International Monetary Fund	-	-	-	-	-	28
Net sale of securities—						
Treasury bills and notes	-38	1,689	-770	363	194	1,547
Commonwealth government securities	801	554	3,166	2,098	2,979	2,470
Public corporations securities	26	22	18	446	331	193
Net receipts of private trust funds	-90	83	217	60	152	155
Reduction in cash and bank balances	-529	579	264	-297	210	-474
Reduction in securities holdings	-69	-511	568	166	-234	-349
Other funds available (including errors and omissions)	263	118	83	214	235	68
<i>Total financing items</i>	<i>619</i>	<i>2,814</i>	<i>3,951</i>	<i>3,492</i>	<i>4,360</i>	<i>4,187</i>
Total funds available	11,907	17,359	21,442	24,111	26,882	28,911
OUTLAY						
Current outlay—						
Final consumption expenditure	2,736	3,552	4,155	4,737	5,293	5,740
Interest, etc., paid	7	108	117	408	559	784
Transfers to persons—						
Cash benefits	3,078	4,322	6,091	7,390	8,281	9,105
Unfunded employee retirement benefits	65	88	106	121	139	162
Subsidies	300	284	271	287	380	513
Transfers overseas	288	349	370	388	417	475
Grants to States, Northern Territory and local government authorities	2,534	3,780	5,524	6,115	7,222	8,147
<i>Total current outlay</i>	<i>9,008</i>	<i>12,484</i>	<i>16,634</i>	<i>19,446</i>	<i>22,292</i>	<i>24,926</i>
Capital outlay—						
Expenditure on new fixed assets	1,002	1,353	1,578	1,667	1,770	1,497
Expenditure on existing assets	18	110	8	4	-16	-79
Increase in stocks	38	315	-75	-50	-121	-206
Grants for private capital purposes	69	122	179	110	130	132
Grants to States, Northern Territory and local government authorities	900	1,414	1,567	1,546	1,516	1,492
Advances to States, Northern Territory and local government authorities	749	1,225	1,372	1,278	1,261	1,127
Advances to other sectors	123	337	178	110	50	23
<i>Total capital outlay</i>	<i>2,899</i>	<i>4,875</i>	<i>4,808</i>	<i>4,665</i>	<i>4,590</i>	<i>3,985</i>
Total outlay	11,907	17,359	21,442	24,111	26,882	28,911

(a) Excludes financial enterprises.

COMMONWEALTH AUTHORITIES: OUTLAY, CLASSIFIED BY PURPOSE

(\$ million)

Purpose	1976-77	1977-78	1978-79
General public services—			
General administration, n.e.c.	787.0	890.9	912.9
External affairs	517.4	565.1	599.6
Law, order and public safety	125.2	154.7	172.0
General research	188.0	199.2	224.1
<i>Total general public services</i>	<i>1,617.6</i>	<i>1,809.9</i>	<i>1,908.6</i>
Defence	2,181.3	2,376.7	2,605.9
Education—			
General administration, regulation and research	28.3	30.0	32.6
Transportation of students	2.7	3.1	3.4
Primary and secondary education	708.7	787.7	829.6
Vocational training	123.2	143.4	173.7
University education	719.2	781.0	810.0
Other higher education	519.5	526.3	562.2
Other education programs	110.7	116.2	111.0
<i>Total education</i>	<i>2,212.3</i>	<i>2,387.7</i>	<i>2,522.4</i>
Health—			
General administration, regulation and research	119.3	108.0	111.7
Hospital and clinical services	1,446.4	1,760.6	1,804.9
Other health services	974.3	825.1	984.9
<i>Total health</i>	<i>2,540.0</i>	<i>2,693.6</i>	<i>2,901.4</i>
Social security and welfare—			
General administration regulation and research	115.7	132.4	157.0
Care of and assistance to—			
Aged persons	2,575.8	3,041.6	3,343.5
Incapacitated and handicapped persons	589.9	689.0	794.9
Unemployed and sick persons	745.8	942.0	1,061.0
Ex-servicemen	694.4	834.8	893.0
Widowed and deserted spouses	542.1	652.4	752.1
Families and children	1,056.1	1,077.1	1,038.0
Other social security and welfare services	55.6	64.2	62.3
<i>Total social security, etc.</i>	<i>6,375.4</i>	<i>7,433.6</i>	<i>8,101.9</i>
Housing and community amenities—			
Housing	502.0	485.2	315.1
Community and regional development	158.2	134.8	96.8
Protection of the environment	87.2	20.4	14.2
Community amenities, n.e.c.	0.4	0.4	0.5
<i>Total housing, etc.</i>	<i>747.8</i>	<i>640.9</i>	<i>426.7</i>
Recreation and culture—			
General administration, regulation and research	0.2	0.1	0.1
Cultural facilities	27.7	32.3	35.0
Support of the creative and performing arts	21.7	23.0	24.7
Broadcasting services and film production	174.2	176.6	186.2
Recreational facilities and services	25.8	23.8	23.5
Other programs	6.5	7.5	7.9
<i>Total recreation, etc.</i>	<i>256.1</i>	<i>263.3</i>	<i>277.3</i>
Economic services—			
General administration, regulation and research	331.7	382.3	453.8
Agriculture, forestry and fishing	256.3	374.5	308.1
Mining, manufacturing and construction	121.5	51.7	137.5
Electricity and water supply	82.0	55.3	17.2
Transport and communication	1,804.1	1,940.4	1,804.3
Other economic services	54.6	51.3	89.0
<i>Total economic services</i>	<i>2,650.2</i>	<i>2,855.5</i>	<i>2,810.1</i>
Other purposes—			
General purpose inter-authority transfers	5,096.1	5,808.5	6,549.4
Natural disaster relief	26.5	53.1	23.6
Interest	408.2	558.9	783.5
<i>Total other purposes</i>	<i>5,530.8</i>	<i>6,420.4</i>	<i>7,356.5</i>
<i>Total outlay, all purposes</i>	<i>24,111.4</i>	<i>26,881.6</i>	<i>28,910.8</i>
Of which—			
Current outlay	19,445.9	22,291.6	24,925.5
Capital outlay	4,665.5	4,590.0	3,985.3

Main components of outlay

The following tables give details of the main components of the outlay of Commonwealth authorities, i.e. final consumption expenditure, expenditure on new fixed assets, cash benefits, subsidies and payments to the States. More detailed information relating to outlay classified by economic type and purpose, and outlay under specific purpose headings such as education, social security and welfare, is given in *Commonwealth Government Finance* (5502.0). Additional details of public authorities' transactions engaged in particular fields of activity, e.g. health, may be found in the relevant chapters of this Year Book.

Final consumption expenditure and expenditure on new fixed assets

Final consumption expenditure consists of current expenditure on goods and services by public authorities other than those classified as enterprises, *less* any charges made for goods and services which they themselves provide. Expenditure on new fixed assets consists of purchases of new durable assets *less* sales of previously rented dwellings. Purchases of defence equipment are treated as current expenditure and expenditure on new construction and maintenance of roads is treated as capital. The following tables show dissections by purpose of final consumption expenditure and expenditure on new fixed assets for the six years ended 1978-79.

COMMONWEALTH AUTHORITIES: FINAL CONSUMPTION EXPENDITURE CLASSIFIED BY PURPOSE
(\$ million)

Purpose	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
General public services—						
General administration	431	556	665	728	843	866
External affairs	58	84	92	98	106	116
Law, order and public safety	48	73	98	112	138	150
General research	90	112	131	152	170	183
<i>Total general public services</i>	628	825	986	1,090	1,257	1,314
Defence	1,222	1,444	1,680	1,999	2,184	2,401
Education	109	165	195	235	256	287
Health	206	303	416	466	504	508
Social security and welfare	99	156	206	224	264	292
Housing and community amenities	27	43	54	40	34	32
Recreation and culture	135	180	203	213	228	248
Economic services—						
General administration, regulation and research	122	166	167	206	284	353
Agriculture, forestry, fishing	83	101	114	125	135	144
Mining, manufacturing and construction	14	18	17	21	29	28
Transport and communication	75	90	93	95	96	109
Other	15	19	19	21	22	24
<i>Total economic services</i>	309	393	410	469	566	657
Other purposes	1	43	5	—	—	—
Grand total	2,736	3,552	4,155	4,737	5,293	5,740

COMMONWEALTH AUTHORITIES: EXPENDITURE ON NEW FIXED ASSETS, CLASSIFIED BY PURPOSE

I. GENERAL GOVERNMENT

(\$ million)

<i>Purpose</i>	<i>1973-74</i>	<i>1974-75</i>	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>
General public services—						
General administration	43.7	56.9	62.2	60.0	49.9	43.1
External affairs	12.3	15.9	20.3	25.5	24.4	11.1
Law, order and public safety	3.2	7.2	9.4	10.9	15.3	22.1
General research	15.1	20.6	32.1	23.6	18.0	29.6
<i>Total general public services</i>	<i>74.2</i>	<i>100.5</i>	<i>124.0</i>	<i>120.1</i>	<i>107.6</i>	<i>106.0</i>
Education	32.1	45.1	73.4	62.2	54.2	50.5
Health	22.0	40.3	57.7	58.3	53.5	36.8
Social security and welfare	10.7	8.7	12.9	8.5	6.7	5.6
Housing and community amenities	38.9	68.8	131.1	112.1	61.3	15.5
Recreation and culture	21.8	31.3	32.1	29.7	25.2	25.7
Economic services—						
General administration, regulation and research	3.3	3.9	6.4	8.8	6.1	7.5
Agriculture, forestry, fishing	9.3	12.6	10.6	8.1	16.0	6.1
Mining, manufacturing and construction	0.8	1.9	1.8	1.0	1.2	0.7
Transport and communication	43.9	56.7	57.5	46.0	73.6	49.0
Other economic services	—	—	—	—	0.5	0.1
<i>Total economic services</i>	<i>57.4</i>	<i>75.2</i>	<i>76.3</i>	<i>63.8</i>	<i>97.4</i>	<i>63.4</i>
Other purposes	—	6.5	5.1	—	—	—
<i>Total general government</i>	<i>257.2</i>	<i>376.4</i>	<i>512.6</i>	<i>454.6</i>	<i>406.0</i>	<i>303.5</i>

II. PUBLIC ENTERPRISES

(\$ million)

<i>Purpose</i>	<i>1973-74</i>	<i>1974-75</i>	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>
Public trading enterprises—						
General public services	0.7	1.5	1.5	0.9	0.5	0.3
Housing and community amenities—Housing	0.1	8.5	18.7	23.5	15.8	2.3
Sewerage and drainage	8.0	15.6	24.8	28.8	14.8	4.9
Economic services—						
Technical services, n.e.c.	0.4	0.6	0.2	0.2	0.5	0.1
Mining activities	—	—	—	—	—	16.5
Manufacturing activities	1.6	4.9	11.6	5.8	5.5	3.8
Electricity, water supply	28.8	26.2	31.6	48.5	52.0	17.9
Transport and communication—						
Air transport	69.5	70.5	67.5	41.0	145.8	136.9
Rail transport	7.5	13.6	45.5	35.9	40.2	46.3
Sea transport	10.5	55.9	46.6	136.9	138.3	36.6
Urban transit systems	2.7	3.3	5.7	1.6	7.2	6.7
Pipelines	56.0	56.5	51.3	18.2	2.1	7.7
Communications services	558.8	717.7	756.3	855.1	913.4	903.8
<i>Total</i>	<i>704.9</i>	<i>917.5</i>	<i>973.0</i>	<i>1,088.9</i>	<i>1,247.0</i>	<i>1,138.1</i>
Other economic services	0.1	1.8	4.5	15.3	27.6	9.2
<i>Total public trading enterprises</i>	<i>744.6</i>	<i>976.6</i>	<i>1,063.8</i>	<i>1,212.0</i>	<i>1,363.7</i>	<i>1,193.1</i>

Cash benefits to persons

Total payments of cash benefits to persons during the latest six years are shown in the next table. Further information relating to items in this table is given in the appropriate chapters of this Year Book.

COMMONWEALTH AUTHORITIES: CASH BENEFITS TO PERSONS
(S'000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
General public services—						
General research—						
Queen Elizabeth fellowships	451	473	584	528	567	531
Assistance to inventors	—	—	20	32	33	34
Defence—						
Special pensions to ex-servicemen	2	—	—	—	—	—
Education	93,764	124,273	162,455	193,970	212,647	224,928
Health	659,003	817,015	1,369,405	1,140,399	1,010,432	1,198,068
Social security and welfare	2,316,407	3,354,893	4,506,592	6,031,946	7,031,002	7,652,463
Recreation—						
Overseas study fellowships	—	—	193	190	102	38
Economic services—						
General administration, regulation and research—						
Hostel tariffs of unemployed migrants	290	289	148	195	728	1,892
Maintenance of migrant families	4,425	6,029	6,498	6,035	5,510	6,766
Stevedoring industry—attendance money, etc.	1,606	2,126	2,692	2,305	988	—
Widows' training scheme	875	863	47	21	—	—
Tertiary education assistance to ex-servicemen	820	421	—	—	—	—
National employment training scheme	—	10,590	31,056	12,809	16,163	16,931
Apprenticeship training	—	—	8,662	1,738	2,966	3,116
Other	12	3	—	—	—	—
Total	8,027	20,321	49,103	23,103	26,355	28,705
Agriculture, forestry, fishing—						
War service land settlement—rent remissions, etc.	13	12	6	1	—	—
Allowances to agricultural trainees	66	49	—	—	—	—
Total	79	61	6	1	—	—
Mining, manufacturing and construction—						
Joint Coal Board—Welfare fund	36	5	4	4	3	7
Total economic services	8,142	20,387	49,113	23,108	26,358	28,712
Other purposes	—	5,217	2,882	201	2	—
Total	3,077,769	4,322,258	6,091,244	7,390,374	8,281,143	9,104,774

Subsidies

The following table shows details of Commonwealth Government outlay on subsidies and bounties. Other assistance to primary producers is included in, for example, tables relating to cash benefits and payments to the States, and additional information is given in Chapter 13, Agricultural Industries.

COMMONWEALTH AUTHORITIES: SUBSIDIES
(S'000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
General public services—						
Departmental cafeteria compensation	189	179	125	—	10	—
Health—						
Serum laboratories	681	1,542	1,242	250	1,200	2,100
Health insurance organisations subsidy	—	—	—	1,748	9,064	6,588
Total	681	1,542	1,242	1,998	10,264	8,688
Housing and community amenities—						
N.T. Housing Commission assistance	76	64	50	96	429	—
Recreation and related cultural services—						
Canberra Theatre Trust subsidy	67	120	143	167	199	191
Economic services—						
Assistance to employers—						
Stevedoring industry assistance	14,480	22,330	28,571	27,066	21,953	16,517
Apprenticeship training	6,130	16,551	26,215	37,750	24,312	28,774
Adjustment assistance for tariff reduction	131	—	—	—	—	—
Total	20,741	38,881	54,786	64,816	46,265	45,291
Assistance to agricultural and pastoral enterprises—						
Dairy products subsidy	18,000	9,000	1,275	—	5,250	12,387
Dairy industry stabilisation	—	—	—	—	52,399	80,723
Wheat prices stabilisation payments	12,360	—	—	41,103	6,971	67,402
Reimbursement by wheat board	—	—	—	810	—	—

COMMONWEALTH AUTHORITIES: SUBSIDIES—continued
(\$'000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Phosphate fertilisers bounty	66,962	29,508	20,133	38,733	42,057	46,202
Nitrogenous fertilisers bounty	13,573	13,983	13,044	15,180	13,329	10,413
Processed milk products bounty	476	633	167	—	—	—
Poultry industry assistance	11,522	12,735	11,401	11,128	10,625	9,772
Dried vine fruits stabilisation payments	389	—	—	658	768	216
Wool marketing assistance	404	—	—	—	—	—
Apple and pear stabilisation payments	2,758	3,119	2,705	4,168	595	463
Apple, pear and canning fruit emergency assistance	2,590	14	—	—	—	—
Beef industry assistance	—	—	—	—	84,953	32,543
Meat exports to U.S.S.R.	—	—	1,240	—	—	—
Beef cattle freight subsidy	—	—	—	296	807	—
N.T. transport of stud stock	108	—	7	—	—	—
Other	57	1	1	—	—	—
<i>Total</i>	<i>129,199</i>	<i>68,993</i>	<i>49,973</i>	<i>112,076</i>	<i>217,754</i>	<i>260,121</i>
Assistance to mining enterprises—						
Oil search subsidy	10,000	5,858	186	—	—	—
Gold mining industry assistance	17	—	—	—	—	—
Australian National Railways—transport iron ore in N.T.	1,000	—	—	—	—	—
Revaluation adjustment assistance, etc.	470	84	—	—	—	—
Mary Kathleen Uranium Ltd—Costs concerning borrowing of uranium	—	—	—	168	102	—
Pyrites bounty	—	—	—	—	—	—
<i>Total</i>	<i>11,487</i>	<i>5,942</i>	<i>186</i>	<i>168</i>	<i>102</i>	—
Assistance to manufacturing enterprises—						
Agricultural tractor bounty	3,707	4,442	3,628	4,880	5,700	5,490
Cellulose acetate flake bounty	206	136	109	—	—	—
Book bounty	3,409	5,936	6,749	8,034	9,538	12,463
Printed sheeting subsidy	—	—	—	300	451	500
Industrial research and development grants	15,000	17,500	19,300	15,400	13,649	22,750
Ship construction subsidy	20,925	31,153	40,966	21,301	7,605	3,559
Shipbuilding bounty	—	—	1,553	7,674	7,800	8,326
Export incentive grants	68,142	93,151	62,825	973	1,303	20,012
Export market development grants	—	—	17,076	24,079	30,000	38,001
Metal-working machine tools bounty	974	1,711	1,585	2,350	3,977	7,048
Structural adjustment assistance	109	5,304	1,120	637	—	—
Refrigeration compressors bounty	—	3,877	1,367	—	—	—
Electronic components assistance	—	385	973	776	293	—
ADP equipment bounty	—	—	—	—	600	654
Commercial motor vehicles bounty	—	—	—	—	—	2,384
Other	—	368	26	—	149	730
<i>Total</i>	<i>112,472</i>	<i>163,963</i>	<i>157,277</i>	<i>86,404</i>	<i>81,065</i>	<i>121,917</i>
Assistance to air transport services—						
Air services subsidy	1,870	926	768	675	842	753
Assistance to sea transport services—						
Tasmania shipping service subsidy	1,000	1,000	5,488	4,109	2,000	2,000
Tasmanian freight equalisation scheme	—	—	—	16,409	20,927	24,700
Other	24	40	48	48	50	—
<i>Total</i>	<i>1,024</i>	<i>1,040</i>	<i>5,536</i>	<i>20,566</i>	<i>22,977</i>	<i>26,700</i>
Assistance to communications services—						
Newspaper postage subsidy	—	—	1,000	—	—	—
Other assistance to enterprises—						
Petroleum products prices scheme	—	—	—	—	—	42,929
Petrol prices equalisation	19,336	1,708	—	—	—	—
N.T. petrol prices equalisation	2,483	626	—	—	72	5,124
Export finance insurance subsidy	—	—	70	298	354	1,496
<i>Total</i>	<i>21,819</i>	<i>2,334</i>	<i>70</i>	<i>298</i>	<i>426</i>	<i>49,549</i>
Natural disaster relief—						
N.T. freight subsidies	69	48	—	15	—	—
<i>Total</i>	<i>299,694</i>	<i>284,032</i>	<i>271,156</i>	<i>287,279</i>	<i>380,333</i>	<i>513,210</i>

Grants and advances to the States and the Northern Territory

Commonwealth Government financial assistance to the States and the Northern Territory takes two main forms: (i) grants for general and specific purposes, and (ii) assistance for developmental and other specific purposes in the form of repayable advances. Some information about these forms of financial assistance is given below, but for more complete information reference should be made to the Commonwealth Government Budget Paper No. 7 *Payments to or for the States, the Northern Territory and Local Government Authorities*. Further information also appears in chapters of this Year Book dealing with the specific function which the payments are designed to serve.

Grants to the States and the Northern Territory

The following tables show details of grants to the States and the Northern Territory for general and specific purposes. More detailed figures appear in *Commonwealth Government Finance* (5502.0).

**COMMONWEALTH AUTHORITIES: GRANTS TO THE STATES AND THE NORTHERN TERRITORY,
1978-79
(\$'000)**

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Total
FOR CURRENT PURPOSES								
General public services	4,359	2,907	1,337	2,086	933	283	—	11,905
Defence	472	370	373	15	431	83	—	1,744
Education	545,806	481,358	221,297	150,850	148,849	44,163	—	1,592,321
Health	407,177	268,290	150,414	113,002	129,565	36,519	9,374	1,114,341
Social security and welfare	14,782	11,328	5,880	6,503	5,943	1,739	—	46,177
Housing and community amenities	1,848	1,347	423	981	627	314	—	5,540
Recreation and culture	45	42	34	32	30	99	—	282
Economic services	17,645	11,329	13,359	4,485	3,441	1,300	64	51,623
Other purposes—								
States' Personal Income Tax sharing entitlements	1,464,397	1,090,025	844,137	559,841	579,532	240,737	—	4,778,669
Global allocation	—	—	—	—	—	—	280,000	280,000
Special grants	—	—	21,700	—	—	—	—	21,700
Interest on State debt	5,835	4,254	2,192	1,408	947	534	—	15,170
Sinking fund on State debt	11,876	9,098	4,740	4,483	3,377	2,386	—	35,959
Natural disaster relief	265	7	1,755	501	151	—	—	2,679
Local government assistance	65,487	45,666	30,252	15,433	16,848	5,741	—	179,427
Establishment grants	—	—	—	—	—	—	330	330
<i>Total other purposes</i>	<i>1,547,860</i>	<i>1,149,050</i>	<i>904,776</i>	<i>581,666</i>	<i>600,855</i>	<i>249,398</i>	<i>280,330</i>	<i>5,313,934</i>
Total grants for current purposes	2,539,994	1,926,021	1,297,893	859,620	890,674	333,898	289,768	8,137,865
FOR CAPITAL PURPOSES								
Education	120,143	102,634	61,404	34,844	35,905	8,787	—	363,717
Health	3,579	3,913	1,735	1,175	2,011	5,374	—	17,784
Social security and welfare	7,499	4,319	2,603	1,862	1,312	1,521	—	19,116
Housing and community amenities	3,456	230	3,103	2,064	4,160	115	—	13,128
Recreation and culture	665	607	2,960	635	415	485	80	5,847
Economic services—								
General administration, regulation and research	—	—	—	—	—	—	—	—
Soil and water resources management	3,810	1,716	1,965	977	3,053	426	—	11,946
Assistance to agricultural and pastoral industries	1,815	1,666	1,197	854	1,454	181	—	7,167
Electricity, gas, water supply	—	—	500	1,385	—	—	—	1,885
Rail transport	—	—	—	—	—	—	—	—
Sea transport	—178	—	—	—	—	—	—	—178
Road systems and regulation	166,969	107,485	107,930	43,676	64,963	22,705	—	513,728
Urban transit systems	14,000	12,000	8,875	4,110	2,015	869	—	41,869
Other	—	—	—	—	—	—	—	—
<i>Total economic services</i>	<i>186,416</i>	<i>122,867</i>	<i>120,466</i>	<i>51,002</i>	<i>71,485</i>	<i>24,181</i>	<i>—</i>	<i>576,417</i>
Other purposes—								
Capital assistance	154,489	120,071	63,370	62,284	44,226	33,496	—	477,936
Natural disaster relief	1,895	805	5,773	—	1,373	—	—	9,844
Total grants for capital purposes	478,141	355,445	261,413	153,865	160,886	73,958	80	1,483,789
TOTAL GRANTS								
Total grants to the States	3,018,135	2,281,466	1,559,306	1,013,485	1,051,560	407,856	289,848	9,621,654

COMMONWEALTH AUTHORITIES: GRANTS TO THE STATES AND THE NORTHERN TERRITORY
(S'000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
FOR CURRENT PURPOSES						
General public services	8,051	8,955	7,910	13,140	11,450	11,905
Defence	—	325	897	1,199	1,362	1,744
Education	433,470	910,391	1,133,808	1,390,758	1,517,841	1,592,321
Health	26,731	47,281	942,673	720,325	1,038,323	1,114,341
Social security and welfare	22,258	61,208	64,137	24,844	36,500	46,177
Housing and community amenities	7,437	9,494	9,863	7,425	5,833	5,540
Recreation and culture	218	70	600	600	489	282
Economic services	16,952	22,713	28,008	40,539	45,548	51,623
Other purposes—						
States' Personal Income Tax sharing entitlements (a)	1,859,905	2,373,811	3,072,780	3,695,594	4,316,641	4,778,669
Global allocation	—	—	—	—	—	280,000
Special grants	38,550	64,684	38,800	27,000	24,800	21,700
Special revenue assistance	25,000	75,000	—	—	—	—
Interest on State debt	15,053	15,287	15,170	15,170	15,170	15,170
Sinking fund on State debt	29,509	30,805	30,200	31,635	33,747	35,959
Debt charges assistance	46,016	57,520	—	—	—	—
Natural disaster payments	4,031	1,090	807	1,925	2,311	2,679
Local government assistance	—	56,345	79,908	140,000	165,328	179,427
Establishment grants	—	—	—	—	—	330
Other	—	—	1,968	—	—	—
<i>Total other purposes</i>	<i>2,018,064</i>	<i>2,674,542</i>	<i>3,239,633</i>	<i>3,911,324</i>	<i>4,557,997</i>	<i>5,313,934</i>
Total grants for current purposes	2,533,181	3,734,979	5,427,526	6,110,154	7,215,343	8,137,865
FOR CAPITAL PURPOSES						
Education	189,064	415,473	319,246	327,763	343,108	363,717
Health	25,100	60,735	140,239	132,455	68,902	117,784
Social security and welfare	7,261	7,795	17,080	15,233	16,334	19,116
Housing and community amenities	25,010	70,182	79,402	37,171	12,317	13,128
Recreation and culture	1,562	12,623	11,036	8,976	5,540	5,847
Economic services—						
General administration, regulation and research	24	180	60	—	—	—
Soil and water resources management	13,572	15,193	14,343	11,636	10,508	11,946
Assistance to agricultural and pastoral industries	11,205	10,317	12,585	8,550	7,413	7,167
Electricity, gas, water supply	—	—	4,081	3,910	2,125	1,885
Rail transport	468	734	3,472	490	14	—
Sea transport	1,000	2,018	1,285	15	305	178
Road systems and regulation	325,657	373,860	458,439	456,215	493,224	513,728
Urban transit systems	—	45,258	34,096	58,403	51,000	41,869
Other	98	1,081	1,829	832	—	—
<i>Total economic services</i>	<i>352,024</i>	<i>448,641</i>	<i>530,190</i>	<i>540,051</i>	<i>563,979</i>	<i>576,417</i>
Other purposes—						
Natural disaster relief	20,275	48,446	29,150	23,697	20,820	9,844
Capital assistance	278,307	345,878	430,333	452,000	477,930	477,936
Total grants for capital purposes	898,603	1,409,773	1,556,676	1,537,346	1,508,927	1,483,789
TOTAL GRANTS						
Total grants to the States	3,431,784	5,144,752	6,984,202	7,647,500	8,724,266	9,621,654

(a) Prior to 1976-77 'Financial assistance grants'.

General purpose grants

Financial Assistance Grants. Details of the financial assistance grants arrangements existing in 1972-73 and previous years are given in earlier issues of the Year Book (see No. 60, page 578.)

Arrangements for the years 1973-74 to 1975-76 are embodied in the *States Grants Act 1973*. Under these arrangements the financial assistance grants increase each year in proportion to the increase in average wages in Australia as a whole in the year ending 31 March in the year of payment

and to the increase in each State's population in the year ending 31 December in the year of payment, and by a betterment factor of 1.8 per cent. Adjustments were made to these arrangements to reduce the grants when the Commonwealth assumed full responsibility for financing tertiary education from 1 January 1974 and on account of transfers of railways from South Australia and Tasmania to the Commonwealth. Financial assistance grants additional to the grants determined by the formula were paid to Western Australia in 1973-74 and 1974-75, and to Tasmania in 1974-75. In 1975-76, \$220 million was paid to the States in addition to the amounts otherwise payable in that year and in the same proportion.

These arrangements were replaced by the *Personal Income Tax Sharing Entitlements* between the Commonwealth and the State and local governments which came into operation in 1976-77. A comprehensive description of this scheme is given in the Commonwealth Budget Paper *Payments to or for the States, the Northern Territory and Local Government Authorities* 1979-80.

The following table shows the calculations underlying the States' tax sharing entitlements in 1978-79:

DISTRIBUTION OF STATES' PERSONAL INCOME TAX SHARING ENTITLEMENTS IN 1978-79

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Total
(1) Population at 31 December 1978(a)	5,042,730	3,836,343	2,179,885	1,290,915	1,232,281	415,645	13,997,799
(2) Per capita relativities(b)	1.02740	1.00000	1.39085	1.52676	1.66516	2.00188	
(3) Row (1) weighted by Row (2)	5,180,901	3,836,343	3,031,893	1,970,917	2,051,945	832,071	16,904,070
(4) Percentage distribution of Row (3) between States (per cent)	30.64884	22.69479	17.93588	11.65942	12.13876	4.92231	100.00000
(5) Share of 39.87 per cent of \$11,804.4 million(c) — Distributed according to Row (4) \$'000	1,442,462	1,068,111	844,137	548,741	571,300	231,664	4,706,415
(6) Amount guaranteed under Section 8 of the Act (Financial Assistance Grants formula) (d) \$'000	1,464,397	1,090,025	837,065	559,841	579,532	240,737	4,771,597
(7) States' entitlements under the Act (\$'000) (e)	1,464,397	1,090,025	844,137	559,841	579,532	240,737	4,778,669

(a) Determined in accordance with section 9 of the *States (Personal Income Tax Sharing) Act* 1976. (b) Relativities specified in section 4 (1) of the Act. (c) Net personal income tax collections (excluding receipts from the Health Insurance levy) in 1977-78 as determined by the Commissioner of Taxation in accordance with section 6 of the Act. (d) Determined in accordance with section 8 of the Act. Calculated by applying to the notional 1977-78 financial assistance grants the estimated increases in State populations in the year ended 31 December 1978 (New South Wales 1.27 per cent, Victoria 0.97 per cent, Queensland 1.15 per cent, South Australia 0.55 per cent, Western Australia 1.75 per cent and Tasmania 0.87 per cent), the estimated increase in average wages for Australia as a whole in the year ended 31 March 1979 of 8.20 per cent and the betterment factor of 3.0 per cent. (e) For all States except Queensland, amounts in Row (6); for Queensland, see amount in Row (5).

Special Grants. These grants are paid to the financially weaker States as supplements to the financial assistance grants. They are paid on the recommendation of the Grants Commission. The recommendation by the Commission for payment of a special grant consists of two parts: one part is based on an estimate of the claimant State's financial need in the current financial year, and is treated as an advance payment subject to adjustment two years later when the Commission has compared in detail the audited budget results and standards of effort and of services provided in that year for both the claimant State and the States which the Commission takes as 'standard' (New South Wales and Victoria at present); and the other part represents the final adjustment to the advance payment made two years earlier and is known as the completion payment. The following table shows special grants paid in recent years.

GRANTS COMMISSION: SPECIAL GRANTS
(\\$'000)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Queensland—						
Advance payment	15,000	25,000	18,000	14,000	16,000	11,000
Completion payment (a)	9,000	10,800	5,700	1,400	6,700	(b)
<i>Total</i>	24,000	35,800	23,700	15,400	22,700	(b)
South Australia—						
Advance payment	15,000	—	—	—	—	—
Completion payment (a)	(c) 10,000	—	—	—	—	—
<i>Total</i>	25,000	—	—	—	—	—
Tasmania—						
Advance payment	—	—	—	—	—	—
Completion payment (a)	—	—	—	—	—	—
<i>Total</i>	—	—	—	—	—	—
Grand total	49,000	35,800	23,700	15,400	22,700	(b)

(a) Actually paid two years subsequent to year shown. (b) Not yet determined. (c) Represents agreed estimate of completion grant which could have been expected to be recommended by the Grants Commission if the State had remained claimant.

Capital assistance grants. Since 1970-71 the Commonwealth Government has provided a portion of the State's Loan Council programs in the form of interest-free capital grants. The grants replace State borrowings and thereby relieve them of debt charges they would otherwise have had to pay. These grants, which were authorised by the *States Grants (Capital Assistance) Acts*, totalled \$345.9 million in 1974-75, \$430.3 million in 1975-76, \$452.0 million in 1976-77, \$477.9 million in 1977-78 and 1978-79, and \$415.0 million in 1979-80.

Specific purpose grants

The Commonwealth Government has provided financial assistance for certain specific types of expenditure by the States for many years. Unlike the general purpose grants, these current and capital grants are 'tied', that is, they are subject to conditions as to the purposes for which they may be spent. Purposes for which such grants have been made include educational programs, hospital development programs, welfare services for the aged, road construction, natural disaster relief and, since 1974-75, assistance to local government authorities. Specific purpose grants amounted to \$3,442.2 million in 1975-76, \$3,472.9 million in 1976-77, \$3,904.9 million in 1977-78, \$4,063.0 million in 1978-79 and \$4,547.2 million in 1979-80.

For details of the various specific purpose programs reference should be made to the Commonwealth Budget Paper *Payments to or for the States, the Northern Territory and Local Government Authorities* 1979-80.

Advances to the States

The Commonwealth is also providing financial assistance for State projects by way of repayable advances. Borrowings of the Loan Council which are advanced to the States for their work programs and advances for State housing projects represent the largest proportion of the total funds advanced. Full descriptions of the various programs for which funds have been advanced in recent years are given in *Payments to or for the States, the Northern Territory and Local Government Authorities*.

The following table shows figures of advances to the States and repayments of advances. More detailed figures appear in *Commonwealth Government Finance* (5502.0).

COMMONWEALTH AUTHORITIES: NET ADVANCES TO THE STATES AND THE NORTHERN TERRITORY 1978-79

(\$'000)

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>Total</i>
Defence	5,111	700	5,021	-18	-50	-3	-	10,760
Housing and community amenities	111,083	83,710	29,367	51,140	29,462	18,930	-628	323,064
Economic services—								
Soil and water resources management	-2,340	-189	-346	-	-	-	-	-2,875
Forest resources management	3,115	601	1,458	-12	1,284	1,069	-	7,515
Assistance to agricultural and pastoral industries	7,638	5,298	2,224	3,550	6,962	776	-	26,447
Mining	-	-	-	-	-	-1,009	-	-1,009
Electricity, gas, water supply and sewerage	-	-	-88	3,043	-367	-2,989	-1,147	-1,548
Rail transport	-96	-96	-2,079	-2	-1,496	-	-	-3,769
Sea transport	-	-	-98	-	-151	-132	-	-381
Other transport	-	-	-570	-1,875	-	-	-	-2,445
<i>Total economic services</i>	<i>8,317</i>	<i>5,614</i>	<i>501</i>	<i>4,704</i>	<i>6,232</i>	<i>-2,285</i>	<i>-1,147</i>	<i>21,935</i>
Other purposes—								
State works programs	246,345	194,274	102,006	101,467	70,275	56,231	-	770,598
Special resource assistance	-10,000	-	-	-	-	-	-	-10,000
Natural disaster relief	296	8	-505	4,929	6,639	-320	-	11,048
Other	-	-2	-	-	-	-	-	-2
<i>Total other purposes</i>	<i>236,641</i>	<i>194,280</i>	<i>101,501</i>	<i>106,396</i>	<i>76,914</i>	<i>55,911</i>	<i>-</i>	<i>771,644</i>
Total net advances	361,154	284,304	136,388	162,222	112,557	72,553	-1,776	1,127,402

Minus sign (-) denotes excess of repayments.

COMMONWEALTH AUTHORITIES: ADVANCES TO THE STATES
(S'000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
GROSS						
Defence	7,766	26,805	34,170	35,114	22,519	11,600
Housing and community amenities	263,633	565,506	558,810	474,741	441,646	355,424
Economic services—						
Assistance to agricultural and pastoral industries	27,363	28,478	50,328	31,981	37,489	39,812
Other	37,316	57,118	65,606	48,900	8,175	10,770
Other purposes—						
State works programs	588,693	741,541	860,667	904,000	955,867	955,867
Other	3,872	3,663	1,098	4,828	34,369	14,444
Total gross advances	928,644	1,423,111	1,570,679	1,499,564	1,500,065	1,387,917
REPAYMENTS						
Defence	593	631	681	734	789	840
Housing and community amenities	17,380	19,172	22,061	25,191	28,332	31,736
Economic services—						
Assistance to agricultural and pastoral industries	3,970	3,391	5,451	8,548	11,074	13,365
Other	11,088	9,372	11,997	13,116	13,351	14,366
Other purposes—						
State works programs	140,783	149,400	151,999	159,323	171,032	185,269
Other	6,276	16,245	6,096	14,589	14,343	13,396
Total repayments	180,090	198,211	198,286	221,501	238,922	258,972
NET						
Defence	7,173	26,174	33,490	34,380	21,730	10,760
Housing and community amenities	246,254	546,334	536,749	449,550	413,314	323,688
Economic services—						
Assistance to agricultural and pastoral industries	23,393	25,087	44,877	23,433	26,415	26,447
Other	26,228	47,746	53,609	35,784	-5,176	-3,596
Other purposes—						
State works programs	447,910	592,141	708,668	744,677	784,835	770,598
Other	-2,404	-12,582	-4,999	-9,761	20,026	1,048
Total net advances	748,554	1,224,900	1,372,393	1,278,063	1,261,144	1,128,945

Minus sign (-) denotes excess of repayments.

Main components of receipts

The main components of the receipts of Commonwealth authorities are taxation, income of public enterprises and other factor income transfers, and borrowing and financing transactions. Taxation constitutes by far the major source of receipts. In recent years, however, borrowing has become an increasingly significant source of funds for Commonwealth authorities.

In what follows, an account is given of the system of Commonwealth Government taxation, and some details are given of the current operations of Commonwealth public enterprises. Borrowings and other financing activities of Commonwealth authorities are dealt with for convenience in a later section relating to the debt of all public authorities.

Commonwealth Government taxation—summary

The following tables show Commonwealth Government taxation receipts classified by type of tax for the past six years, and the proportion of each type to total collections.

COMMONWEALTH AUTHORITIES: TAXATION BY TYPE OF TAX(a)

(\$'000)

Type of tax	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Taxes—						
Income taxes—						
Individuals(b)	7,708,552	9,212,652	11,046,664	12,122,158	12,797,174	15,040,097
Companies(c)	2,343,943	2,505,173	2,803,040	3,072,372	3,002,052	3,359,941
Dividend (withholding)	59,818	62,674	71,969	87,700	88,094	99,912
Interest (withholding)	28,298	32,344	24,408	30,153	25,975	41,018
Mining (withholding)	—	—	—	—	—	200
Total income taxes	10,140,611	11,812,843	13,946,081	15,312,383	15,913,295	18,541,168
Estate duty	63,787	76,391	76,189	95,823	82,061	48,398
Gift duty	16,204	10,454	11,486	6,574	1,445	529
Rates on land	9,207	12,993	15,503	17,010	15,011	16,540
Customs duty on coal exports	—	111,640	121,329	100,165	93,524	90,522
Customs duties on imports	840,515	932,066	1,152,016	1,131,817	1,363,041	1,538,064
Excise duties—						
Crude oil and LPG	—	257,000	340,000	469,000	1,227,000	2,270,000
Other	1,728,620	2,074,325	2,145,420	2,264,490	2,617,686	2,695,531
Sales tax	1,154,266	1,408,286	1,650,256	1,757,702	1,769,840	1,864,813
Primary production taxes	143,428	115,594	189,006	179,368	283,092	278,270
Broadcasting listeners' and television viewers' licences(d)	18,816	—	—	—	—	—
Broadcast station licences	713	827	1,200	1,508	1,843	2,184
Television station licences	2,819	3,393	6,028	10,469	12,724	15,946
Stevedoring industry charge	21,921	37,150	46,884	28,955	19,004	20,137
Payroll tax	14,351	17,347	18,644	19,583	13,142	12,334
Other taxes	10,153	13,087	15,496	19,107	30,453	30,002
Total taxes	14,165,411	16,883,396	19,735,538	21,413,954	23,443,161	27,424,438
Fees from regulatory services	8,199	11,821	15,264	21,526	22,730	49,722
Fines	2,620	2,515	3,121	3,838	4,229	3,868
Unfunded employee retirement contribution	34,513	39,889	51,680	61,087	63,129	67,124
Other current transfers n.e.c.	785	209	678	554	403	576
Total taxation	14,211,528	16,937,830	19,806,281	21,500,959	23,533,652	27,545,728

(a) From 1978-79 excluded taxes collected by Northern Territory Government authorities. (b) Includes Medibank levy payable from 1 October 1976 to 31 October 1978. (c) Excludes income tax paid by public enterprises: 1974-75, \$14.9m; 1975-76, \$17.7m; 1976-77, \$21.4m; 1977-78, \$23.1m; 1978-79, \$34.6m; 1979-80, \$46.5m. (d) Abolished in September 1974.

Taxes on income

A description of the development of income taxes in Australia appeared in Year Book No. 35, page 926. Since July 1942 the Commonwealth Government, under the uniform tax arrangement, has been the only authority imposing taxes on income.

The laws dealing with the assessment and imposition of income tax at 31 October 1980 were—*Income Tax Assessment Act* 1936 (later referred to as 'the Assessment Act'); Acts declaring rates of tax—*Income Tax (Rates) Act* 1976, *Income Tax (Individuals) Act* 1980, *Income Tax (Companies and Superannuation Funds) Act* 1980, *Income Tax (Non-resident Companies Act)* 1978, *Income Tax (Dividends and Interest Withholding Tax) Act* 1974, *Income Tax (Drought Bonds) Act* 1969, *Income Tax (Withholding Tax Recoupment) Act* 1971, *Income Tax (Bearer Debentures) Act* 1971, *Income Tax (Mining Withholding Tax) Act* 1979, *Income Tax (Film Royalties) Act* 1977, *Income Tax Regulations* and *Income Tax (Indexation) Regulations*.

Both individuals and companies are liable for income tax. Private companies are subject to tax on certain undistributed income in addition to the primary income tax levied on all companies.

The operation of the *Assessment Act* is affected by other Acts, the more important of which are:

- Taxation Administration Act* 1953, which provides for the administration of certain Acts relating to taxation and the screening for taxation purposes of applications for exchange control approval.
- Income Tax (International Agreements) Act* 1953, which gives the force of law to agreements with other countries for the avoidance of double taxation. Australia has concluded comprehensive agreements for the avoidance of double taxation with the United Kingdom, the United States of America, Canada, New Zealand, Singapore, Japan, the Federal Republic of Germany, the Netherlands, France, Belgium, the Philippines, Switzerland and Malaysia and limited agreements dealing with airline profits have been concluded with France, Italy and Greece. The agreements with Switzerland and Malaysia have not yet entered into force.

- (c) *The States (Personal Income Tax Sharing) Act 1976*, which provides for the States to receive a specified proportion of net personal income tax collections.
- (d) *Income Tax (Arrangements with the States) Act 1978*, which enables each State to increase or reduce personal income tax levied on residents of the State.
- (e) *International Organizations (Privileges and Immunities) Act 1963*, and Regulations made under that Act, which provide for the exemption from income tax of certain income of international organizations and their officials.
- (f) *Diplomatic Privileges and Immunities Act 1967*, which provides for the exemption from income tax of certain income of diplomatic representatives, their staff and families.
- (g) *The Loan (Income Equalization Deposits) Act 1976*, which provides for the making of interest bearing income equalization deposits by primary producers with the Commissioner of Taxation.
- (h) *Consular Privileges and Immunities Act 1972*, which provides for the exemption from income tax of certain income of consular representatives, their staff and families.
- (i) *Loan (Drought Bonds) Act 1969*, which authorizes the issue of drought bonds and empowers the Commissioner of Taxation to declare when drought bonds have become redeemable.
- (j) *Taxation Debts (Abolition of Crown Priority) Act 1980*, which abolishes priority accorded to certain Crown Debts.

An individual is required to lodge a return of income when his total income (other than dividends or interest upon which withholding tax has been paid) from all sources in Australia is in excess of \$4,041 in 1980-81. However, in the case of a minor i.e., a person under the age of 18 years at the end of the year of income, a return is to be lodged where income exceeds \$1040 (see page 567).

Non-profit companies with total incomes in excess of \$416 and all other companies, partnerships and trusts deriving income are required to lodge returns of income each year.

Where applicable, income tax payable is assessed and assessment notices showing the amounts payable are issued during the year following the year of income. For individuals the approximate amount payable, however, has already been collected during the income year (from employees by deductions from salary or wages and from non-employees by a provisional tax). The amount shown on the assessment notice is therefore adjusted against the amount already paid, and any difference is either collected or refunded.

Taxes on income—individuals

Pay-as-you-earn-system

Salary and wage earners are subject to tax instalment deductions by employers according to prescribed scales which show the amount to be deducted according to income. Under the group employer scheme (covering employers of more than ten persons), the amount deducted is required to be regularly remitted to the Australian Taxation Office.

Not later than 14 July each year, employers are required to supply each employee with a group certificate showing the amount earned and deductions made during the year ended 30 June.

Under the tax stamp scheme for employers other than group employers, a tax deduction sheet in two parts is used. Every four weeks the employer purchases tax stamps for the amount of deductions made each pay day and attaches the tax stamps to the tax stamps sheet in the space provided and the tax checks (attached to the stamps) in the space provided on the tax check sheet. At the end of the year the employer gives the employee the tax stamp sheet and sends the tax check sheet to the Taxation Office. The tax stamp sheet is then used in the same way as a group certificate.

Individuals with taxable income other than salary or wages of \$1,000 or more in 1980-81 may be required to pay provisional tax in respect of that income. Provisional tax is not generally charged, however, where tax instalment (PAYE) deductions made in the previous income year exceeded 95 per cent of the net tax payable for that year. The provisional amount is intended as an approximation to the tax which will be assessed after the return of income for the current year has been lodged. In order to account for an expected rise in provisional incomes in 1980-81, provisional tax is calculated using 1980-81 rates of tax applied to 1979-80 income increased by 7.5 per cent. The provisional amount is intended as an approximation to the tax which will be assessed after the return of income for the current year has been lodged. The assessment notice shows the tax assessed on income from the previous year less any provisional tax already paid for that year and provisional tax payable for the current year. Taxpayers may apply to vary the amount of provisional tax imposed if his or her circumstances change during the year.

Assessable income—individuals

Assessable income (from which deductions are made to arrive at taxable income) basically includes all receipts within the ordinary meaning of the word 'income', but excludes items of income that are

specified as exempt. Assessable income specifically includes certain receipts such as casual profits arising from the sale of property held less than one year and profits arising from the sale of property acquired for the purpose of profit-making by sale regardless of the period the property is held before sale. The value to employees of allowances and benefits given by employers for services rendered is also specifically included in the assessable income of the employees. Receipts such as gifts (other than gratuities received by an employee in the course of employment), legacies, lottery wins and other receipts of capital generally do not form part of the assessable income.

Exemption from tax is provided by the Assessment Act in respect of a number of specified classes of income—for example, certain war pensions; invalid pensions; family allowances; income received from a scholarship, bursary or other educational allowance; the income of charitable institutions and public hospitals, certain foreign income where it has been taxed overseas, and income of certain Australian residents derived from personal services performed overseas.

Deductions

The taxable income to which the rates of tax are applied is arrived at by deducting from the assessable income any allowable deductions. Allowable deductions include:

General Deductions. Deductions from assessable income are authorised for all losses and outgoings incurred in gaining or producing assessable income or necessarily incurred in carrying on a business for that purpose, except to the extent that they are of a capital, private or domestic nature, or are incurred in gaining or producing exempt income.

In addition, certain other deductions are specifically authorised by the Assessment Act. Deductions allowable include trading losses incurred in previous years, bad debts, depreciation, rates and land taxes paid and gifts to various institutions. Expenditure of a capital nature incurred in relation to mining operations is generally deductible over the lesser of 5 years or the life of the mine or oil field or, in the case of plant, over the life of the plant. Exploration or prospecting expenses incurred by mining companies are generally allowable as a deduction against income of a mining business in the year in which the expenditure is incurred, while exploration and prospecting expenses incurred on petroleum mining are deductible against any income calculated by reference to the life of the field with a minimum deduction of one-fifth of the undeducted expenditure. Deductions are also available for the cost of converting certain oil fired industrial equipment to use other energy sources. The deduction, which replaces annual depreciation allowances, is an amount equal to the cost of the conversion. A special allowance of 40 per cent of the cost of certain capital expenditure incurred on the purchase or construction of certain non-oil fired plant to replace oil fired plant is also available. Normal depreciation allowances apply to the plant and the 40 per cent allowance takes the place of any investment allowance that otherwise might have applied. Increased depreciation allowances at rates 20 per cent higher than would otherwise apply are allowable after 19 August 1980 on eligible plant (other than certain motor vehicles) used by a taxpayer in the production of assessable income or installed ready for use for that purpose and held in reserve. Deductions may also be allowed in respect of expenditure on certain plant and machinery by way of an investment allowance at a rate of 20 per cent of eligible expenditure for plant ordered between 1 July 1978 and 30 June 1985.

Certain expenditure of a capital nature incurred by primary producers in carrying out improvements to their land is deductible over 10 years. Deductions are also available for certain expenditure in connection with conserving or conveying water for use in a business of primary production which are fully deductible in the year of income in which the expenditure is incurred. Eligible expenditure incurred on the construction of stockyard or subdivisional fencing to control or eradicate brucellosis or tuberculosis is also allowable in the year of income replacing previously allowable depreciation allowances. Special depreciation is allowable by way of annual deductions equal to 20 per cent of the cost of structural improvements for the storage of grain, hay or fodder erected on land on which a business of primary production is carried on. Deductions are also allowable in respect of cash deposits made by primary producers (income equalisation deposits) which fall for inclusion in assessable income on withdrawal.

Living-away-from-home allowance. Where an allowance is paid to an employee under any award, industrial agreement, etc.—

- (a) if it is received in cash and does not exceed \$7 per week, a deduction is allowable of the amount of the allowance, up to \$5 per week;
- (b) if it is received otherwise than in cash and exceeds a value of \$2 per week but does not exceed a value of \$5 per week, a deduction is allowable of the excess of that value over \$2 per week.

In any other case the deduction allowable is the amount which the Commissioner deems reasonable but may not exceed the total amount received less \$2 per week.

Subscriptions. When they are paid in respect of membership of any trade, business or professional association or union.

Gifts. Those of \$2 and upwards made to specified funds, authorities and institutions including public benevolent institutions, approved research institutions for scientific research, building funds for schools conducted by non-profit organisations, certain approved voluntary overseas aid organisations, etc.

Superannuation contributions of eligible self-employed persons and employees not covered by funds to which any other person contributes for their benefit that are paid after 19 August 1980 to approved funds are deductible to a maximum \$1,200 in any one year of income. Any excess of contributions over \$1,200 falls for consideration under the superannuation provisions subject to concessional rebate (see page 565).

Rebates of Tax

From the gross amount of tax calculated by applying the relevant rate to the taxpayer's taxable income, a deduction is made for any rebates allowable to the taxpayer.

Dependant, housekeeper and sole parent rebates. A concessional rebate of the relevant amount specified below for each *dependant* is allowable to a resident taxpayer if, during the whole of the year of income, the taxpayer is the sole contributor to the dependant's maintenance and that dependant does not have a separate net income in excess of \$272.

<i>Dependant</i>	<i>Maximum rebate 1980-81</i>
Spouse, daughter-housekeeper	\$ 800
Parent or parent-in-law	722
Invalid relative	362

If a person in one or other of these dependant categories is a dependant during part only of the year of income (such a person residing with the taxpayer is ordinarily regarded as a dependant throughout the period of residence), the maximum rebate is proportionately reduced. Rebates for a parent, parent-in-law or invalid relative are allowable only in respect of residents of Australia.

Where a person has a separate net income in excess of \$272 while a dependant of a taxpayer, the rebate otherwise allowable is reduced by \$1 for every complete \$4 by which the separate net income exceeds \$272, irrespective of the period over which the person has derived the income. When two or more people contribute to the maintenance of a person who is a dependant of both of them, the rebate allowable is apportioned between the contributing taxpayers.

A concessional rebate of \$800 is allowable to a resident taxpayer in respect of a *housekeeper* who, during the whole of the year of income, is wholly engaged in keeping house in Australia for the taxpayer and has the care of (a) a child or step-child of the taxpayer, less than 16 years of age; (b) an invalid relative in respect of whom the taxpayer is entitled to a rebate or any child under 16 years classed as a dependant for this purpose; or (c) the taxpayer's spouse if in receipt of an invalid pension under the *Social Services Act*. A child under 16 years referred to in (b) will be classed as a dependant where the taxpayer contributes to that child's maintenance and the child's separate net income is less than \$1,720.

If these conditions apply for only part of the year, a proportionate rebate may be allowed. Where the taxpayer is married, a rebate may be allowable for a housekeeper if the housekeeper is engaged in caring for an invalid spouse (see (c) above) or the Commissioner is of the opinion that, because of special circumstances, it is just to allow a rebate. The rebate is not allowable in respect of any period during which the taxpayer is entitled to a deduction for a daughter-housekeeper.

A concessional rebate of \$559 is allowable to a *sole parent* i.e., a resident single, widowed or divorced person who has the sole care of a child under sixteen years of age or a student (up to 25 years of age, receiving full-time education at a school, college or university), whose separate net income is ordinarily less than \$1,720. The sole parent rebate is not allowable where the taxpayer is entitled to a rebate for a housekeeper or daughter-housekeeper or is living in a de-facto relationship.

Concessional rebates

Resident taxpayers may be allowed a concessional rebate in respect of certain expenses listed below amounting in total to more than \$1,590. The amount of the rebate for 1980-81 is 32 per cent of the excess of the total expenditure over \$1,590, but the rebate cannot exceed the tax otherwise payable.

Medical, dental, optical, etc. expenses. Rebates are allowable in respect of medical, dental, optical and therapeutic treatment expenses paid by the taxpayer, less any amounts in respect of those expenses which are received or receivable by the taxpayer or any other person from a Government or friendly

society or medical benefit fund. Included are amounts paid in respect of artificial limbs and eyes, hearing aids and medical and surgical appliances and the remuneration of an attendant of a person who is blind or permanently confined to a bed or invalid chair. Domiciliary nursing care benefits are to be disregarded in calculating the rebatable amount in respect of medical expenses.

Rebates in respect of the above medical, etc. expenses are allowable only for expenditure in respect of a resident taxpayer, spouse, children under 21 years of age or any other 'dependant' resident in Australia, but not a 'housekeeper'.

Funeral, burial or cremation expenses. Rebates are allowable only in respect of the taxpayer's spouse, children under 21 years of age or any other 'dependant', but not a 'housekeeper', provided the dependant was a resident of Australia at the time of death. The amount of expenses allowable in respect of any one dependant is limited to \$100.

Adopted children. Legal expenses and court costs of the kind normally incurred by a taxpayer in adopting a child.

Payments of life, sickness and accident insurance premiums and payments to a Friendly Society, Superannuation, Sustentation or similar Fund. Amounts subject to rebate are limited to a total of \$1,200 in respect of such payments made on behalf of the taxpayer, his spouse or children. In the case of self-employed and "unsupported" employees contributions that are deductible, the excess over \$1,200 not allowed as a deduction may be allowed as a rebate within the \$1,200 limit on such rebatable expenditure. Where policies are taken out on or after 1 January 1973 or where the first premium of a policy was paid on or after that date, rebates for premiums of such policies are *not* allowable if the benefits, other than death benefits, are payable within a period of 10 years of commencement of risk.

Education expenses. An amount not exceeding \$250 is allowed in respect of each child of the taxpayer or 'dependant' under 25 years of age receiving full-time education. Education expenses include expenditure for recognised school uniforms, on school fees, board and accommodation, text books, stationery, equipment and fares.

Self-education expenses. These are allowable where they are paid by the taxpayer for or in connection with a course of education undertaken by him for the purpose of gaining qualifications for use in carrying on a profession, business or trade or in the course of employment. The maximum amount subject to rebate is \$250.

Calls. One-third of the amount of calls paid by the taxpayer in the year of income on shares owned by him in a company carrying on as its principal business afforestation in Australia.

Rates and land taxes. These are allowable when they are paid by a taxpayer who is personally liable. The maximum amount rebatable is \$300 and must be in respect of a sole or principal place of residence.

Other rebates

Zone allowance rebate. A separate rebate is allowable to resident taxpayers who have resided in Zone A or B (prescribed isolated areas) for more than one half of the income year. The rebates are as follows.

- (a) Zone A: a rebate equal to the sum of \$216 and 25 per cent of certain amounts in respect of dependants, sole parent and housekeeper;
- (b) Zone B: a rebate equal to the sum of \$36 and 4 per cent of those amounts stipulated under Zone A.

The amount in respect of dependants, sole parent and housekeeper that may be the subject of a 25 per cent (Zone A) or 4 per cent (Zone B) increment to the basic zone allowance are:

	1980-81
	\$
Sole parent	559
Housekeeper	800
Spouse, daughter-housekeeper	800
Parent or parent-in-law	722
One child under 16 years, not being a student	362
Each other child under 16 years, not being a student	272
Student	362
Invalid relative	362

(a)

(a) Where one of these persons has a separate net income in excess of \$272 while a dependant of a taxpayer, the amount to be taken into account is reduced by \$1 for every complete \$4 by which that income exceeds \$272, irrespective of the period over which it was derived. Where two or more people contribute to the maintenance of a person who is a dependant of both of them, the amount to be taken into account is apportioned between the contributing taxpayers.

Amounts for a parent, parent-in-law or invalid relative are allowable only in respect of resident dependants.

'Child' or 'children' includes a legally adopted child, a step-child or ex-nuptial child of the taxpayer. 'Student' means a person less than 25 years of age who is receiving full-time education at a school, college or university.

Overseas service rebate. Separate rebates are also allowable to certain members of the Defence Force serving in prescribed overseas localities. Where the period of service is more than one-half of the year of income, the rebate is equal to the Zone A rebate. Where the period is less than one-half of the year of income, a proportionate part of the Zone A rebate is allowable.

Unused leave rebate. Where a taxpayer's taxable income exceeds \$17,239 and includes lump sum payments in consequence of termination of employment or retirement for unused annual leave or unused long service leave attributable to service after 15 August 1978 or both, a rebate is allowable to limit the marginal rate on such payments to the standard rate of 32 per cent.

Rebate for government and other loan interest. A rebate of tax may be allowed in respect of certain Government and other loan interest included in an individual's taxable income. Particulars are given on page 567.

Capital subscription rebate. Section 160ACA of the Income Tax Assessment Act provides for a rebate of tax to shareholders in respect of capital subscribed to certain petroleum exploration and mining companies. The rebate allowable is 30 cents for each \$1 of amounts paid on shares after 24 August 1977 by way of application and allotment moneys and calls which are applied by a company towards the paid-up value of its shares. The allowance of the rebate is conditional upon the company lodging a declaration satisfying the Commissioner that the share moneys will be, or have been, spent on outgoings for off-shore exploration for petroleum and the development of off-shore petroleum fields and also includes expenditure on facilities located on-shore that are directly related to the off-shore petroleum operations. It is also conditional upon the company forgoing any right to a deduction under Division 10AA for the expenditure. These provisions will be extended to include on-shore petroleum exploration and development for capital subscribed after 21 August 1979.

For primary producers, whose taxable income exceeds the average of the current and preceding four years taxable incomes, a rebate is allowable in respect of taxable income derived from primary production and in respect of other taxable income where it does not exceed \$5,000. Where non-primary production income exceeds \$5,000, the amount deemed to be derived from primary production is the amount, if any, that remains after deducting from \$5,000 the excess of that income over \$5,000. In determining the rebate, an averaging benefit is calculated by subtracting from the tax on the taxable income, the tax that would be payable if an average rate appropriate to the average on the taxable incomes of the current and four previous years had applied. The rebate is that proportion of the averaging benefit that the deemed primary production taxable income bears to the total taxable income.

Effective exemption from tax

For the income years from 1963-64 to 1971-72 inclusive, the income of a taxpayer without dependants was exempt from income tax if it did not exceed \$416. For years 1972-73 to 1974-75 inclusive the income of a taxpayer without dependants was exempt from income tax if it did not exceed

\$1,040. In 1975-76 and 1976-77 after the application of the general concessional rebate of \$540 and \$610 respectively to resident taxpayers, the corresponding figures were \$2,518 and \$2,845. In 1977-78, with the composite tax scale applying, the figure was \$3,402. For 1978-79 and 1979-80 no tax was payable unless taxable income exceeded \$3,893 and for 1980-81 no tax is payable unless taxable income exceeds \$4,041 (except in the case of certain minors). The effect of deductions or rebates for dependants was to exempt resident taxpayers up to the incomes shown in the samples hereunder.

RESIDENT TAXPAYERS: EFFECTIVE EXEMPTIONS FROM INCOME TAX

(\$)

Income years ended June—	Taxpayer with—					
	No dependants	Wife only	Wife and—			Sole parent
			one child	two children	three children	
1976	2,518	4,000	4,740	(a) 5,228	(b) 5,800	2,740
1977	2,845	4,697	4,697	4,697	4,697	4,141
1978	3,402	5,335	5,335	5,335	5,335	4,761
1979	3,893	5,675	5,675	5,675	5,675	5,137
1980	3,893	5,698	5,698	5,698	5,698	5,153
1981	4,041	6,541	6,541	6,541	6,541	5,787

(a) Neither of whom is a student child.

(b) Including one student child.

Rates of income tax on individuals

The table below shows the rates of income tax for the income year 1980-81. Rates for income years 1954-55 to 1973-74 were published in Year Book No. 60, page 590, for income years 1974-75 and 1975-76 they were published in Year Book No. 61, page 586, for income years 1976-77 and 1977-78 they were published in Year Book No. 62, pages 593 and 594, for income year 1978-79 they were published in Year Book No. 63, page 529 and for income year 1979-80 they were published in Year Book No. 64, page 604.

The taxable income, including abnormal receipts, of *actors, artists, inventors*, etc. is taxed at the rate appropriate to the normal taxable income plus one-third of the abnormal receipts.

Interest derived from bonds, etc.

Interest derived from bonds, etc., issued between 1 January 1940 and 31 October 1968 by the Commonwealth Government, or on certain State semi-government loans issued free of State income tax, is subject to a rebate of income tax of 10 cents for each \$1 of interest received. The rebate does not apply to interest received from bonds, etc., issued on or after 1 November 1968.

Rates of tax—individuals

The rates of tax on taxable incomes derived by individuals during the year ending 30 June 1981 (or substituted accounting period) are set out below.

GENERAL RATES OF TAX—INDIVIDUALS 1980-81 FINANCIAL YEAR, 1980-81 INCOME YEAR

Total taxable income		Tax at general rates on total taxable income	
Not less than—	Not more than—		
\$	\$	\$	\$
0	4,041	Nil	
4,041	17,239	Nil	+ 32c for each \$1 in excess of 4,041
17,239	34,478	4223.36	+ 46c for each \$1 in excess of 17,239
34,478	..	12153.30	+ 60c for each \$1 in excess of 34,478

Income of Certain Minors

Special provisions in Division 6AA of the Assessment Act may apply to income, whether derived directly or through a trust, of a minor—a person who is under the age of 18 years at the end of the year of income. Under the new system, which commenced in the 1979-80 income year, a minimum rate of tax equal to the middle rate of personal tax—46 per cent in 1980-81—is imposed on specified income in excess of \$1040, subject to shading-in arrangements.

Income tax payable on specified incomes at general rates

The following table shows, for the income years 1975-76 to 1980-81, the actual income tax payable by taxpayers with various incomes and numbers of dependants. For 1975-76 and 1976-77, the general concessional rebates of \$540 and \$610 respectively have been applied and for 1977-78 the composite rate scale has been used, which incorporates the general concessional rebate. Prior to 1975-76 a concessional deduction system operated for dependants; this was replaced by a system of rebates.

COMMONWEALTH INCOME TAX PAYABLE ON SPECIFIED INDIVIDUAL INCOMES 1975-76 TO 1980-81 INCOME YEARS

(\$)

<i>Net Income(a)</i>	1975-76	1976-77(b)	1977-78(b)	1978-79(b)	1979-80(b)	1980-81(b)
TAXPAYER WITH NO DEPENDANTS						
1,000	..	..	..	..	..	..
3,000	130.00	41.80	..	..	..	..
5,000	670.00	581.80	457.52	370.84	366.08	306.88
7,000	1,370.00	1,229.80	1,073.45	1,040.84	1,027.48	946.88
10,000	2,420.00	2,279.80	2,085.92	2,045.84	2,019.58	1,906.88
15,000	4,670.00	4,399.80	3,917.26	3,720.84	3,673.08	3,506.88
20,000	7,420.00	6,954.80	6,199.80	5,870.72	5,801.46	5,493.42
TAXPAYER WITH DEPENDANT WIFE						
1,000	..	..	..	..	..	..
3,000	..	..	..	..	..	..
5,000	270.00	81.80	..	..	..	..
7,000	970.00	729.80	518.45	443.84	430.48	146.88
10,000	2,020.00	1,779.80	1,530.92	1,448.84	1,422.58	1,106.88
15,000	4,270.00	3,899.80	3,362.26	3,123.84	3,076.08	2,706.88
20,000	7,020.00	6,454.80	5,644.80	5,273.72	5,204.46	4,693.42
TAXPAYER WITH DEPENDANT WIFE AND ONE CHILD						
1,000	..	..	..	..	..	..
3,000	..	..	..	..	..	..
5,000	70.00	81.80	..	..	..	..
7,000	770.00	729.80	518.45	443.84	430.48	146.88
10,000	1,820.00	1,779.80	1,530.92	1,448.84	1,422.58	1,106.88
15,000	4,070.00	3,899.80	3,362.26	3,123.84	3,076.08	2,706.88
20,000	6,820.00	6,454.80	5,644.80	5,273.72	5,204.46	4,693.42
TAXPAYER WITH DEPENDANT WIFE AND TWO CHILDREN(c)						
1,000	..	..	..	..	..	..
3,000	..	..	..	..	..	..
5,000	..	81.80	..	..	..	..
7,000	620.00	729.80	518.45	443.84	430.48	146.88
10,000	1,670.00	1,779.80	1,530.92	1,448.84	1,422.58	1,106.88
15,000	3,920.00	3,899.80	3,362.26	3,123.84	3,076.08	2,706.88
20,000	6,670.00	6,454.80	5,644.80	5,273.72	5,204.46	4,693.42

(a) Income remaining after allowing all deductions other than concessional deductions. (b) For 1976-77 to 1980-81 rebates for children and students are replaced by family allowances (formerly child endowment). (c) Neither of whom is a student.

Income tax assessments—Individuals

The following tables show for the 1977-78 and 1978-79 income years the number of taxpayers, taxable income, and net income tax assessed for individuals.

**COMMONWEALTH INCOME TAX ASSESSMENTS(a): TAXABLE INDIVIDUALS BY GRADE OF
TAXABLE INCOME AND BY STATE OR TERRITORY OF RESIDENCE**
(Income derived in the year 1977-78)

Grade of taxable income(c)	Taxpayers			Net income (b)	Total taxable income(c)	Net income tax assessed
	Males	Females	Total			
\$ \$	No.	No.	No.	\$'000	\$'000	\$'000
Under 4,000	204,131	211,914	416,045	1,469,495	1,442,185	52,012
4,000-4,999	206,210	265,377	471,587	2,156,620	2,117,324	161,765
5,000-5,999	214,567	242,357	456,924	2,559,149	2,510,996	276,579
6,000-6,999	227,279	243,608	470,887	3,123,074	3,062,619	420,608
7,000-7,499	130,260	123,044	253,304	1,874,906	1,837,501	285,889
7,500-7,999	152,052	135,210	287,262	2,270,121	2,227,264	370,222
8,000-8,499	173,069	133,936	307,005	2,581,231	2,532,704	442,734
8,500-8,999	185,728	115,219	300,947	2,684,039	2,632,485	479,573
9,000-9,499	193,774	92,982	286,756	2,705,550	2,651,666	500,507
9,500-9,999	193,507	71,895	265,402	2,642,385	2,586,801	503,403
10,000-10,499	184,038	58,400	242,438	2,538,322	2,483,657	497,673
10,500-10,999	167,073	47,193	214,266	2,352,639	2,302,200	473,227
11,000-11,499	150,496	39,005	189,501	2,177,145	2,130,770	448,510
11,500-11,999	136,522	31,937	168,459	2,021,346	1,978,700	424,217
12,000-12,499	123,276	26,346	149,622	1,870,104	1,831,967	399,960
12,500-12,999	108,386	22,058	130,444	1,697,114	1,662,514	370,265
13,000-13,999	181,254	36,312	217,566	2,991,002	2,931,537	676,419
14,000-14,999	139,894	23,119	163,013	2,407,962	2,360,013	566,605
15,000-15,999	109,314	17,810	127,124	2,008,005	1,967,613	498,974
16,000-16,999	85,077	12,430	97,507	1,640,385	1,606,387	415,430
17,000-17,999	62,978	8,442	71,420	1,275,085	1,247,789	335,604
18,000-18,999	47,821	6,248	54,069	1,021,674	999,332	278,230
19,000-19,999	37,142	4,551	41,693	830,799	811,920	234,545
20,000-23,999	78,957	10,590	89,547	1,989,206	1,941,717	604,895
24,000-31,999	50,323	7,811	58,134	1,619,492	1,579,671	561,141
32,000-39,999	15,983	2,418	18,401	665,589	650,126	264,422
40,000-49,999	7,937	1,133	9,070	409,657	401,510	181,270
50,000-99,999	7,738	917	8,655	567,681	560,508	284,323
100,000 and over	1,115	135	1,250	196,068	195,254	112,862
Office of Assessment—						
New South Wales	1,184,958	671,782	1,856,740	18,503,017	18,141,386	3,848,779
Victoria	1,014,613	590,879	1,605,492	15,661,643	15,315,570	3,217,409
Queensland	517,670	263,238	780,908	7,368,534	7,213,512	1,458,675
South Australia	325,294	183,076	508,370	4,779,625	4,687,019	944,111
Western Australia	326,775	172,075	498,850	4,762,841	4,673,662	953,634
Tasmania	105,895	52,760	158,655	1,538,210	1,514,146	309,916
Northern Territory (d)	20,142	10,728	30,870	330,436	324,752	66,190
Australian Capital Territory	80,554	47,859	128,413	1,401,542	1,374,683	314,148
Total	3,575,901	1,992,397	5,568,298	54,345,848	53,244,731	11,112,862

(a) Assessments in respect of 1977-78 income year issued during the period 1 July 1978 to 30 June 1979. (b) Net income is 'Total assessable income less total deductions for expenses incurred in gaining assessable income'. (c) Taxable income is the income remaining after deducting from assessable income all allowable deductions. (d) Assessments issued from South Australian Office.

COMMONWEALTH INCOME TAX ASSESSMENTS(a): TAXABLE INDIVIDUALS BY GRADE OF NET INCOME AND BY STATE OR TERRITORY OF RESIDENCE

(Income derived in the year 1976-77)

Grade of taxable income(c)	Taxpayers			Net income(b)	Total taxable income(c)	Net income tax assessed
	Males	Females	Total			
\$ \$	No.	No.	No.	\$'000	\$'000	\$'000
Under 5,000	248,429	302,535	550,964	2,401,381	2,360,450	109,098
5,000-5,999	190,147	234,744	424,891	2,377,634	2,336,357	220,365
6,000-6,999	201,035	222,470	423,505	2,804,630	2,753,637	348,330
7,000-7,999	225,229	236,134	461,363	3,530,679	3,466,172	528,184
8,000-8,999	299,550	263,202	562,752	4,873,522	4,788,437	820,413
9,000-9,999	351,147	212,373	563,520	5,450,170	5,350,834	991,069
10,000-10,999	363,849	141,355	505,204	5,404,549	5,297,134	1,039,493
11,000-11,999	317,446	97,149	414,595	4,858,825	4,760,179	981,633
12,000-12,999	268,919	68,180	337,099	4,295,389	4,208,125	902,360
13,000-13,999	222,333	50,595	272,928	3,755,832	3,680,116	814,725
14,000-14,999	179,378	36,576	215,954	3,189,931	3,125,786	710,646
15,000-15,999	143,639	25,900	169,539	2,679,417	2,625,163	611,727
16,000-17,999	204,016	35,516	239,532	4,133,544	4,048,008	985,615
18,000-19,999	117,372	16,370	133,742	2,586,618	2,529,524	667,823
20,000-21,999	70,832	9,582	80,414	1,721,506	1,681,130	474,405
22,000-23,999	42,937	6,114	49,051	1,152,952	1,124,349	334,843
24,000-25,999	27,670	4,298	31,968	817,561	796,550	247,561
26,000-27,999	19,091	3,099	22,190	613,310	597,821	192,701
28,000-29,999	13,309	2,252	15,561	462,137	450,491	149,659
30,000-31,999	10,352	1,885	12,237	388,449	378,833	129,362
32,000-39,999	22,594	4,437	27,031	973,946	950,441	345,257
40,000-49,999	10,167	1,629	11,796	533,423	520,787	213,541
50,000-99,999	9,404	1,374	10,778	705,974	693,667	325,917
100,000 and over	1,311	207	1,518	233,918	231,439	127,473
Office of Assessment—						
New South Wales	1,188,224	672,104	1,860,328	20,519,878	20,142,517	4,289,981
Victoria	999,798	582,751	1,582,549	17,145,702	16,772,286	3,529,243
Queensland	512,344	259,789	772,133	8,177,274	8,008,640	1,616,328
South Australia	329,264	182,293	511,557	5,283,101	5,176,115	1,039,183
Western Australia	321,786	169,013	490,799	5,192,367	5,093,040	1,039,985
Tasmania	105,814	51,703	157,517	1,678,266	1,653,118	337,459
Northern Territory	21,030	11,470	32,500	384,199	376,367	75,734
Australian Capital Territory	81,896	48,853	130,749	1,564,510	1,533,347	344,285
Total	3,560,156	1,977,976	5,538,132	59,945,298	58,755,428	12,272,199

(a) Assessments in respect of 1978-79 income year issued during the period 1 July 1979 to 30 June 1980. (b) Net income is 'Total assessable income less total deductions for expenses incurred in gaining assessable income'. (c) Taxable income is the income remaining after deducting from assessable income all allowable deductions. (d) Assessments issued from South Australian Office.

Partnerships and trusts

Income tax returns are required to be lodged on behalf of partnerships and trusts which, as partnerships and trusts, are not required to pay tax except in certain specified circumstances when they may be assessed as individuals. In general, the net income remaining after allowing all deductions including expenditure incurred in gaining the income is distributed to the partners or beneficiaries concerned and is assessable for tax in the respective individual returns.

The following tables show for the 1977-78 and 1978-79 income years numbers, total business income and net income of partnerships and trusts. Greater detail is published in the statistical supplement to the annual report of the Commissioner of Taxation and in the report itself.

PARTNERSHIP AND TRUSTS—INCOME YEAR 1977-78

Item	Partnerships	Trusts	Total
Number	489,144	143,906	633,050
Total business income \$'000	15,053,645	2,302,174	17,355,819
Net income (a) \$'000	4,499,724	942,259	5,441,983

(a) Total net income adjusted by subtraction of loss.

Taxes on income—companies

For taxation purposes companies are divided into two main groups—private and public. Broadly, a private company is defined as a company in which all the issued shares are held by not more than twenty persons; or which is capable of being controlled by not more than seven persons, and which is not a company in which the public is substantially interested; or which is a subsidiary of a public company. All other companies are regarded as public companies. Both private and public companies pay primary tax assessed on a taxable income ascertained on the same principles as for individuals.

Dividends received are assessable income; however, while resident companies receive a rebate at the average rate on the amount of dividends included in the taxable income, this rebate is not allowed to non-resident companies.

A private company is liable to pay additional tax upon the amount, if any, by which the dividends paid by the company within a prescribed period fall short of sufficient distribution as defined.

Rates of tax. The rates of primary income tax for all companies and additional tax for private companies applicable to income years 1970-71 to 1979-80 are shown in the following table.

RATES OF INCOME TAX: COMPANIES, 1970-71 TO 1979-80 INCOME YEARS (Cents per \$)

Income years ended 30 June	Resident private company			Resident public company (a)		Non resident company			
	On taxable income		Additional tax on un- distributed income	On taxable income		On dividends income		On other income	
	Up to \$10,000	On re- mainder		Up to \$10,000	On re- mainder	Up to \$10,000	On re- mainder	Up to \$10,000	On re- mainder
1971 and 1972	37.5	42.5	50	47.5	47.5	42.5	47.5	47.5	47.5
1973	45.0	45.0	50	47.5	47.5	47.5	47.5	47.5	47.5
1974	45.0	45.0	50	45.0	45.0	45.0	45.0	45.0	45.0
1975 and 1976	42.5	42.5	50	42.5	42.5	42.5	42.5	42.5	42.5
1977-1980	46.0	46.0	50	46.0	46.0	46.0	46.0	46.0	46.0

(a) Excludes co-operative, non-profit and life insurance companies.

For the income year ended 30 June 1974 the rate for companies other than friendly society dispensaries was 45 per cent, except that for the first \$10,000 of taxable income of co-operative and non-profit companies (other than friendly society dispensaries) the rate was 42.5 per cent. The rate for friendly society dispensaries was 37.5 per cent.

For the income years ended 30 June 1975 and 1976 the rate for companies other than friendly society dispensaries was 42.5 per cent and for friendly society dispensaries it was 37.5 per cent.

For the income years ended 30 June 1977 to 1980 the rates were 46 per cent and 41 per cent respectively. Tax exemption levels for these years are set out below.

A non-profit company is not liable to income tax unless the taxable income exceeds \$416. Where the non-profit company is a friendly society dispensary and the taxable income does not exceed \$2,311 the maximum amount payable is 50 per cent of the excess over \$416 less any rebate or credit to which

the company is entitled. Where the taxable income of a non-profit company other than a friendly society dispensary does not exceed \$2,542, the tax payable by the company is limited to 55 per cent of the amount by which the taxable income exceeds \$416 less any rebate or credit to which the company is entitled. Other companies are assessed for income tax if the taxable income is \$1 or more.

Non-resident companies are also liable to additional tax at the rate of 5 per cent of the company's reduced taxable income. Reduced taxable income means the amount remaining after deducting from taxable income net dividends included in assessable income and certain amounts relating to overseas ships, film royalties, insurance premiums and reinsurance income.

Details in respect of company income tax assessments for the 1977-78 income year are shown in the following table.

COMMONWEALTH INCOME TAX ASSESSMENTS: RESIDENT AND NON-RESIDENT COMPANIES BY GRADE OF INCOME AND OFFICE OF ASSESSMENT
(Income derived in the year 1977-78)

Grades of taxable income (a) (\$) and office of assessment	Taxable			Non-taxable		
	Companies	Taxable income (a)	Net income tax assessed (b)	Companies	Taxable income (a) (c)	Loss (d)
		No.	\$'000		No.	\$'000
Loss for year	—	—	—	76,123	—	1,204,992
Nil	—	—	—	48,175	—	—
1- 1,999	30,872	16,475	7,100	4,723	3,481	—
2,000- 9,999	20,563	106,244	43,825	5,462	27,995	—
10,000- 19,999	9,514	135,884	55,105	2,128	30,140	—
20,000- 39,999	7,796	221,382	90,900	1,302	36,493	—
40,000- 99,999	6,569	410,275	166,504	862	52,686	—
100,000- 199,999	2,867	401,208	162,121	278	38,317	—
200,000- 399,999	1,590	443,552	176,120	148	41,276	—
400,000- 999,999	1,225	771,886	286,183	93	56,214	—
1,000,000-1,999,999	516	718,623	252,512	29	39,669	—
2,000,000 and over	594	5,482,304	1,802,468	36	168,741	—
Total	82,106	8,707,832	3,042,838	139,359	495,011	1,204,992
New South Wales	38,215	2,925,098	997,490	63,007	253,747	508,458
Victoria	20,206	4,213,869	1,438,080	32,968	124,791	448,101
Queensland	7,948	773,816	303,474	12,770	46,713	84,261
South Australia	7,026	325,377	121,264	13,620	28,875	73,197
Western Australia	5,230	323,211	133,140	9,725	18,905	60,389
Tasmania	1,430	87,871	29,431	2,634	4,386	12,674
Northern Territory	489	13,848	5,876	862	1,038	5,144
Australian Capital Territory	1,562	44,742	14,082	3,773	16,556	12,768

(a) Taxable income is the income remaining after deducting from assessable income all allowable deductions. (b) Excludes additional tax on the undistributed income of private companies. (c) Net tax assessed is nil because of rebates. (d) Not included in the figures shown for taxable income.

Yield of income taxes

Income taxes collected. The following table shows the net amounts of taxes collected and the proportions of the several components over recent years.

COMMONWEALTH INCOME TAXES COLLECTED: COLLECTION YEARS 1974-75 TO 1979-80

Source of income tax	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
NET AMOUNTS COLLECTED (\$'000)						
Individuals—						
Instalments—salaries and wages	6,071,293	7,019,706	8,528,863	9,638,786	10,397,606	12,160,308
Other payments	1,642,726	2,199,685	2,524,781	2,490,216	2,406,212	2,879,787
Companies	2,358,809	2,522,837	2,824,459	3,095,321	3,036,520	3,406,479
Withholding tax	88,116	95,018	96,377	117,852	114,069	141,130
Total	10,160,944	11,837,246	13,974,480	15,342,175	15,954,407	18,587,704
PERCENTAGES						
Individuals—						
Instalments—salaries and wages	59.75	59.30	61.03	62.83	65.17	65.42
Other payments	16.17	18.58	18.07	16.23	15.08	15.49
Companies	23.21	21.31	20.21	20.18	19.03	18.33
Withholding tax	0.87	0.80	0.69	0.76	0.72	0.76
Total	100.00	100.00	100.00	100.00	100.00	100.00

Refunds of revenue. Income tax collections, as previously shown are net amounts after refunds of revenue made in the course of the year. Refunds are of two types: those charged to special appropriations under authority of the Income Tax Assessment Act and those charged to special appropriations under authority of the Audit Act. Income tax instalment refunds, by far the greatest part of income tax refunds, are made when the instalments deducted during the year exceed the tax assessed on incomes for that year. Refunds made from special appropriations under section 37A of the Audit Act include refunds of moneys paid to the revenue in error, refunds of tax overpaid, refunds due to the amendment of assessments, etc. Refunds of income tax to individuals during the collection years 1975-76 to 1979-80 were: 1975-76, \$1,535,935,000; 1976-77, \$1,501,555,000; 1977-78, \$1,218,225,000; 1978-79, \$1,407,257,000 and 1979-80, \$1,478,387,000.

Estate duty

Prior to 1 July 1979 estate duty was levied under the *Estate Duty Assessment Act* 1914 and was assessed on the net value of the estate less a statutory exemption. In respect of estates of persons who died after 21 November 1977 no duty was payable on that part of the estate which passed to or for the benefit of the deceased persons' widow or widower, children, grandchildren, parents or grandparents. Duty is not payable on estates of any person dying on or after 1 July 1979. For estates of persons who died before 1 July 1979, where no part of the estate passed to the relatives mentioned above, duty was payable on the net value less statutory exemption as follows:

- for qualifying estates of deceased primary producers—\$24,000
- for other estates—\$20,000
 - decreasing by \$2 for every \$8 by which the value of the estate exceeds \$24,000 or \$20,000 as the case may be.

Additional information concerning a rural property rebate and higher exemption levels for primary producers, special exemptions for defence personnel and a quick succession rebate is given in Year Book No. 63, page 534.

The rates of duty remained unchanged from 1941 and increased as the value of the estate for duty increased, as follows: did not exceed \$20,000, 3 per cent; \$20,001 to \$40,000, 3 per cent to 6 per cent; \$40,001 to \$240,000, 6 per cent to 26 per cent; \$240,001 to \$1,000,000, 26 per cent to 27.9 per cent; \$1,000,000 or more, 27.9 per cent.

Particulars of the number and value of dutiable estates and duty assessed for recent assessment years are given in the following table.

COMMONWEALTH ESTATE DUTY ASSESSMENTS

		1974-75	1975-76	1976-77	1977-78	1978-79
Estates	No.	13,621	13,447	13,793	15,154	9,828
Gross value as assessed	\$'000	1,183,913	1,223,732	1,208,236	1,443,967	980,304
Deductions (a)	"	242,912	274,953	296,738	356,792	268,164
Statutory exemptions	"	318,706	317,087	335,596	344,482	175,141
Dutiable value	"	622,295	631,693	611,702	742,693	536,999
Net duty assessed	"	80,560	83,663	73,512	99,050	76,301
Average dutiable value	\$	45,686	46,976	44,349	49,010	54,640
Average duty assessed per estate	\$	5,914	6,222	5,330	6,536	7,764

(a) Debts, Exempt Estate and State Probate Succession Duties.

Gift duty

Prior to 1 July 1979 the *Gift Duty Act 1941* and the *Gift Duty Assessment Act 1941* imposed a gift duty on gifts which were defined as dispositions of property made otherwise than by will, without adequate consideration in money or money's worth. Both the donor and the donee were liable to furnish a return, and both were jointly and severally liable for payment of the duty. However, if a return was furnished by the donor, the donee is relieved of this obligation. Under the *Gift Duty Assessment Act 1978*, gifts to the donor's spouse, children, grandchildren, parents or grandparents made after 21 November 1977 were not subject to duty. Gift duty is not levied on any gifts made after 1 July 1979.

Certain exemptions from duty were provided, the more important being: payments to an employees' superannuation or like fund; retiring allowances or gratuities granted to employees; gifts to organisations not carried on for the profit of any individual; gifts to the Commonwealth Government or a State; and small gifts not exceeding \$100.

The rate of gift duty applicable to any particular gifts was fixed by reference to the total value of all gifts made by the same donor within the period of eighteen months before and eighteen months after the time of making that gift. Where the total value of all gifts as defined did not exceed \$10,000 no duty was payable. The rates of duty that applied to 30 June 1979 were (a) \$10,001 to \$20,000, 3 per cent provided that the gift duty payable did not exceed one half of the amount by which the gift exceeded \$10,000 or a proportionate amount where more than one gift is involved; (b) \$20,001 to \$40,000, 3 per cent to 6 per cent; (c) \$40,001 to \$240,000, 6 per cent to 26 per cent; (d) \$240,001 to \$1,000,000 and over, 26 per cent to 27.9 per cent.

Particulars of the number of gift duty assessments, value of gifts as assessed and duty assessed for recent assessment years are given in the following table.

COMMONWEALTH GIFT DUTY ASSESSMENTS

		1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Assessments	No.	6,976	7,514	6,564	7,480	4,352	995
Value as assessed	\$'000	199,454	297,020	164,259	187,085	103,058	95,738
Duty assessed	"	18,037	36,077	10,344	11,711	5,934	22,032

Customs duties

A description of the Australian Customs Tariff System is given in Chapter 24, Overseas Transactions. Details of duties collected on the import of commodities classified in accordance with the 'Brussels Nomenclature' are given in the following table.

GROSS CUSTOMS DUTIES ON IMPORTS ACCORDING TO BRUSSELS TARIFF DIVISIONS

(\$'000)

<i>Brussels Tariff Division</i>	<i>Source of receipts</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>
1	Live animals; animal products	1,002	968	1,320
2	Vegetable products	1,167	1,252	2,305
3	Animal and vegetable fats and oils and their cleavage products; prepared edible fats; animal and vegetable waxes	3,137	2,130	3,042
4	Prepared foodstuffs; beverages, spirits and vinegar; tobacco	182,297	217,377	234,365
5	Mineral products	5,581	2,941	3,801
6	Products of the chemical industry and allied industries	20,054	24,678	51,785
7	Artificial resins and plastic materials, cellulose esters and ethers, and articles thereof; rubber, synthetic rubbers, factice and articles thereof	62,701	72,138	96,815
8	Raw hides and skins, leather, furskins and articles thereof; saddlery and harness; travel goods, handbags and similar containers; articles of gut (other than silkworm gut)	13,826	17,242	18,992
9	Wood and articles of wood; wood charcoal; cork and articles of cork; manufactures of straw, of esparto and of other plaiting materials; basketware and wickerwork	16,156	17,628	21,043
10	Paper-making material; paper and paperboard and articles thereof	21,955	28,589	33,861
11	Textiles and textile articles	146,226	189,841	199,637
12	Footwear, headgear, umbrellas, sunshades, whips, riding-crops and parts thereof; prepared feathers and articles made therewith; artificial flowers; articles of human hair; fans	30,926	39,710	46,060
13	Articles of stone, of plaster, of cement, of asbestos, of mica and of similar materials; ceramic products; glass and glassware	22,577	25,315	31,934
14	Pearls, precious and semi-precious stones, precious metals, rolled precious metals, and articles thereof; imitation jewellery; coin	9,275	10,872	12,173
15	Base metals and articles of base metal	60,242	68,903	87,166
16	Machinery and mechanical appliances; electrical equipment; parts thereof	223,356	257,928	316,471
17	Vehicles, aircraft, and parts thereof; vessels and certain associated transport equipment	259,041	330,322	327,634
18	Optical, photographic, cinematographic measuring, checking, precision, medical and surgical instruments and apparatus; clocks and watches, musical instruments; sound recorders and reproducers; television image and sound recorders and reproducers, magnetic; parts thereof	25,742	24,788	32,531
19	Arms and ammunition; parts thereof	505	472	1,163
20	Miscellaneous manufactured articles	39,094	45,319	53,560
21	Works of art, collectors' pieces and antiques	400	510	578
	Primage	10,426	10,680	8,838
	Total customs duties and primage	1,155,684	1,389,603	1,585,071

The *net* customs duties on imports for these years are 1977-78, \$1,105,201,946; 1978-79, \$1,332,104,996; and 1979-80, \$1,509,661,395.

Customs duties on imports as recorded in the Financial Statements prepared by the Minister for Finance for these years are: 1977-78, \$1,131,816,877; 1978-79, \$1,363,269,507; and 1979-80, \$1,538,075,018.

Excise duties

Details of duties collected in relation to the production of specific commodities are given in the following table.

COMMONWEALTH EXCISE REVENUE: CLASSIFICATION OF GROSS REVENUE
(\$'000)

<i>Source of revenue</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>
Beer	757,815	947,627	1,004,256
Spirits, including liqueurs, etc.	75,951	100,058	100,185
Tobacco (manufactured), snuff	19,149	22,186	22,867
Cigars and cigarettes	540,866	631,995	681,861
Aviation gasoline—by-law	2,902	3,486	4,428
Aviation gasoline—other	—	337	—
Other gasoline	727,579	762,630	752,998
Mineral turpentine	—	—	—
Coal tar and coke oven distillates, etc.	—	—	—
Aviation turbine kerosene	42,376	45,659	46,232
Kerosene, n.e.i.	—	—	—
Diesel fuel—by-law	85,533	98,732	107,743
Playing cards	132	140	116
Cigarette tubes, paper and papers	761	803	790
Matches	1,930	1,762	1,689
Wine—other than table wine (excise item 16)	—	1	—
Petroleum and liquid petroleum gas (excise item 17)	476,048	1,226,574	2,116,928
Coal	8,426	10,422	10,767
Canned fruit	294	285	160
Other and undistributed excise revenue	4	5	4
Total Gross Excise Duties	2,739,766	3,852,702	4,851,025
Total Gross Customs, Primage and Excise Duties	3,895,450	5,242,305	6,436,095
Total Customs, Primage and Excise Refunds and Drawbacks	52,556	59,610	78,196

Statistics of the value of duty included in the price of petroleum products purchased by Commonwealth Government departments and subsequently credited to those departments by the Department of Finance are not available. The *net* Commonwealth excise revenue for these years is: 1977-78, \$2,737,691,904; 1978-79, \$3,850,590,271; 1979-80 \$4,848,238,058. The quantities of commodities on which excise duty was paid are given in Chapter 24, Overseas Transactions, page 644. Commonwealth excise received, as recorded in the Financial Statement prepared by the Minister for Finance during these years are: 1977-78, \$2,733,818,168; 1978-79, \$3,844,819,457; and 1979-80, \$4,964,954,815.

Sales tax

The general rate of tax levied on all goods other than those specified in the schedules to the *Sales Tax (Exemptions and Classifications) Act 1935* is 15 per cent and goods subject to special rates are taxed at either 2.5 per cent or 27.5 per cent. Prior to 19 August 1970 these special rates were 2.5 per cent and 25 per cent.

Particulars of the sales of taxable goods in each rate class in each State for 1978-79 are given in the following table. The figures relate to sales during the period 1 July to 30 June.

**COMMONWEALTH SALES TAX: SALE VALUE OF TAXABLE GOODS INCLUDED IN RETURNS IN
EACH RATE CLASS, 1978-79**
(*\$'000*)

State	<i>Gross sales of goods taxable at various rates(a)</i>				Total
	2½ %	15 %	27½ %	Other	
New South Wales and A.C.T.	1,041,386	3,320,711	820,882	75,541	5,258,520
Victoria	888,184	2,640,213	442,613	43,496	4,014,506
Queensland	215,148	1,011,913	109,716	19,202	1,355,979
South Australia	216,642	604,269	77,793	4,499	903,203
Western Australia	140,452	597,794	74,550	5,242	818,038
Tasmania	32,863	135,094	16,904	635	185,496
Northern Territory	1,480	24,459	1,776	378	28,093
Australia—1978-79	2,536,155	8,334,453	1,544,234	148,993	12,563,835
1977-78	2,358,989	6,081,979	2,820,401	105,818	11,367,172
1976-77	2,209,131	5,603,039	2,861,956	78,257	10,752,372

(a) Estimated

Sales of taxable goods and sales tax payable for Australia are shown in the following table for recent years.

**COMMONWEALTH SALES TAX: SALE VALUE OF GOODS INCLUDED IN RETURNS AND
COLLECTIONS**
(*\$'000*)

Year of sale	Gross taxable sales	Estimated net taxable sales(a)	<i>Net collections</i>		Total
			Taxation Office	Bureau of Customs	
	(b)	(b)			
1973-74	(d)6,606	6,293	935	34	969
1974-75	(d)7,739	7,345	1,103	51	1,154
1975-76	(d)9,044	8,586	1,360	49	1,408
1976-77	(d)10,752	10,220	(c)1,589	61	(c)1,650
1977-78	(d)10,841	10,252	1,695	63	1,758
1978-79	(d)12,564	11,739	1,699	71	1,770
1979-80	(d)13,826	13,184	1,787	78	1865

(a) Represents gross taxable sales less discounts, goods returned, bad debts and other adjustments. (b) Statistics obtained from returns lodged at Taxation Office. (c) Adjusted. (d) Estimated.

In the foregoing tables, sales include goods transferred to stock for sale by retail, goods imported by persons other than registered taxpayers, and goods used in the business of the taxpayer. Exempt sales relate to goods exempted from sales tax under the *Sales Tax (Exemptions and Classifications) Act* 1935. The figures shown do not represent the total sales of all commodities, as vendors trading only in exempt goods are not required to be registered and, consequently, the volume of their sales is not included. In addition, non-taxable sales (i.e. goods sold by one registered taxpayer to another registered taxpayer) are excluded.

Primary production taxes and charges

The following section shows current rates of charges and levies on primary production. Further information is given in Chapter 13, Agricultural Industries.

Expenditure on research, funded from industry levies, is usually matched dollar-for-dollar by the Commonwealth Government.

Grain—Export Inspection Charge. Under the *Grain (Export Inspection Charge) Act 1979* a levy is imposed on exports of wheat, oats, barley and sorghum to recoup half the cost of export grain inspection. The levy is 4.5 cents per tonne on bulk grain, 25 cents per tonne on bagged grain and 29 cents per tonne on grain in containers.

Wheat Export Charge and Wheat Tax. For details see Chapter 13, Agricultural Industries.

Wool Tax. The *Wool Tax Acts 1964* (Nos 1 to 5) As Amended, impose a levy of 8 per cent on the gross value of wool sold of which 5 per cent is levied for the market support activities of the Australian Wool Corporation and 3 per cent to provide the growers' contribution towards wool research and promotion.

Wool Levy. During 1979–80 a levy of 52c per test is payable by wool brokers and private buyers on all wool samples tested in Australia. The levy, collected under the *Wool Industry Act 1972* (Amendment 49 of 1979), provides 50 per cent of the cost of operating the Australian Wool Measurement Standards Authority.

Tobacco Charge. The rates of Tobacco Charge currently collected under the *Tobacco Charges Acts* (Nos 1 to 3) 1955 and used to fund research into tobacco growing problems are:

- (a) in respect of leaf grown in Australia and sold to a manufacturer:
 - (i) 1.1 cents per kilogram of leaf, payable by the grower or other persons who own the leaf immediately before sale and
 - (ii) 2.2 cents per kilogram of leaf in other cases.

Dairy Industry Stabilization Levy. The Dairy Industry Stabilization Levy Act imposes a levy on the production of butter, butteroil, ghee, various milk powders, casein, caseinates and certain varieties of cheese. The levy is on products sold on the domestic market or used in the manufacture of other products. Basically the rate of levy is fixed at the difference between the domestic market return and the assessed average export return.

The purpose of the levy is to protect the domestic market through the equalisation of returns to manufacturers.

Dairying Research and Promotion Levy. The Dairying Industry Research and Promotion Levy Act 1972 provides for the imposition of a levy on all milk produced in Australia. The Act provides for the levy to be payable by dairy farmers either on a whole milk or butterfat basis. Moneys collected from the levy finance the administration and promotional activities of the Australian Dairy Corporation and the industry contribution to the research programme recommended by the Dairying Research Committee. The Dairying Industry Research and Promotion Levy Regulations prescribe levies of either 10.8 cents per 100 litres of whole milk or 270 cents per 100 kilograms of butterfat.

Canned Fruits Levy. The *Canned Fruits Levy Act 1979* imposes a levy on the production of canned fruits in Australia with effect from 1 January 1980.

The operative rates from that date are:

Containers not exceeding 150 grams—0.625 cents/doz. containers.

Containers exceeding 150 grams but not exceeding 320 grams—1.25 cents/doz. containers.

Containers exceeding 320 grams but not exceeding 490 grams—2.5 cents/doz. containers.

Containers exceeding 490 grams but not exceeding 680 grams—3.75 cents/doz. containers.

Containers exceeding 680 grams—5 cents/doz. containers plus 3 cents/doz. containers for each 450 grams by which the gross weight of the container exceeds 900 grams.

The funds raised are to be used to finance the operation of the Australian Canned Fruits Corporation.

Canning Fruit Charge. The *Canning Fruit Charge Act 1959* imposes a charge on the intake of canning apricots, peaches and pears by fruit canneries. The rate currently prescribed by regulation is 50 cents per tonne. The revenue collected by way of the charge funds the operations of the Australian Canned Fruit Sales Promotion Committee.

Honey Levy and Honey Export Charge. The *Honey Levy Acts* (Nos 1 & 2) 1962 impose a levy of 1.8 cents per kilogram on honey sold for domestic consumption.

The *Honey Export Charge Act 1973* imposes a charge of 0.5 cents per kilogram on honey exports.

The funds are used to finance the operations of the Australian Honey Board.

Livestock Slaughter Levy. The *Livestock Slaughter Levy Act 1964* imposes a levy which is payable on all cattle, calves, bobby calves, sheep, lambs, goats and buffaloes slaughtered for human consumption. The funds are used by the Australian Meat and Livestock Corporation (AMLC) for mar-

keting and promotion, by the Australian Meat Research Committee (AMRC) for production and economic research and by the CSIRO for meat processing research. The Slaughter Levy also provides the funds for the eradication of brucellosis and tuberculosis in cattle and buffaloes.

The levies from 1 July 1979 are:

	Cents/Head				Total
	AMLC	AMRC	CSIRO processing research	Disease eradication	
Cattle	75	25	2	300	402
Calves	27	9	1	100	137
Bobby calves	7.5	2.5	0.2	30	40.2
Sheep, lambs, goats	7.5	3.33	0.2	—	11.03
Buffaloes	75	25	2	300	402

Livestock Slaughter Export Inspection Charge. An export inspection charge introduced on livestock slaughtered at export works from 1 July 1979, to recoup part of the cost of meat inspection incurred by the Commonwealth Government. The charges imposed under the *Livestock Slaughter (Export Inspection Charge) Act 1979* are:

Cattle (180 cents/head), calves (60 cents/head), bobby calves (18 cents/head), sheep, lambs and goats (18 cents/head), buffaloes (180 cents/head), horses, donkeys, mules (180 cents/head), pigs (60 cents/head).

Export Inspection Charge—Overtime Recoveries—Meat. Under the *Customs Act 1901* and the *Commerce (Trade Descriptions) Act 1905*, a levy at the rate prescribed in the Export Meat Regulations is levied on export meat-works to recover fully the cost of providing export meat inspection services outside normal hours.

Livestock Export Charge. The *Livestock Export Charge Act 1977* imposes charges which apply to all cattle, buffaloes, sheep, lambs and goats exported live from Australia. The funds are allocated to the Australian Meat and Livestock Corporation (AMLC), the Australian Meat Research Committee (AMRC) and for disease eradication.

The charges from 1 July 1979 are:

	Cents/Head				Total
	AMLC	AMRC	Disease eradication		
Cattle	75	25	300		400
Sheep, lambs, goats	7.5	3.33	—		10.83
Buffaloes	75	25	300		400

Export Inspection Charges—Miscellaneous. By arrangement, Commonwealth inspectors are provided to (i) abattoirs that are not registered export establishments to inspect meat for domestic consumption and to (ii) State Dried Fruit Boards to inspect dried fruit for domestic use.

The inspection charge in those cases is arrived at by agreement between the parties concerned.

Pig Slaughter Levy. A slaughter levy under the *Pig Slaughter Levy Act 1971* is payable on all pigs slaughtered for human consumption. The funds are used by the Australian Pig Industry Research Committee for production and marketing research and by the Piguemeat Promotion Advisory Committee for promotional activities within Australia. The present operative levy is 21 cents per pig. Of this amount 13 cents is for promotion and 8 cents for research.

Meat Chicken Levy. A levy is payable under the *Meat Chicken Levy Act 1969* on meat chickens hatched for human consumption. The funds are used by the Australian Chicken Meat Research Committee for research into problems associated with the chicken meat industry. The operative rate of levy is 0.1 cent per chicken.

Poultry Industry Levy. The *Poultry Industry Levy Act 1965* imposes a levy at a maximum rate of \$2.00 per hen per annum on domesticated fowls kept for commercial purposes. The operative rate of levy is 7.5 cents per bird per fortnight on the number of hens kept. The levy is payable on each prescribed day which is every second Thursday. The levy is designed to provide assistance to the poultry industry.

Wine Grapes Levy. The *Wine Grapes Levy Act 1979* imposes a levy on prescribed goods used at a winery in Australia in the manufacture of wine. The operative rate of levy is \$2.40 per tonne of fresh grapes with provision for conversion of dried grapes and grape juice to their fresh grape equivalents. Funds raised by the levy are used to finance the Australian Wine Board.

Dried Vine Fruits Levy. In order to meet the objectives of the Dried Vine Fruits Stabilization Scheme the *Dried Vine Fruits Levy Act* 1971 imposes a levy on dried vine fruit where the average return for a season exceeds by more than \$10 the amount per tonne that constitutes the base price for that season with a maximum levy of \$20 per tonne provided the quantity received for packing in a season exceeds 50,000 tonnes. When average returns fall more than \$10 below the base price, the Government guarantees to growers a pay-out from the fund to a maximum of \$25 per tonne to a total of \$1.5 million.

Dried Fruit Export Charges. The *Dried Fruit Export Charges Act* 1924-78 imposes a levy of \$4.50 per tonne on the export of dried currants, sultanas and raisins. The funds are used to finance the Australian Dried Fruits Corporation.

Dried Vine Fruits Equalisation Levy. The *Dried Vine Fruits Equalisation Levy Act* 1978 imposes a levy on domestic sales of dried vine fruit which is equal to the difference between the assessed returns per tonne from the domestic market and the assessed average returns per tonne from export. The purpose of the levy is to facilitate the equalisation of returns to producers from all markets. Because of the buoyant nature of the export market for dried vine fruit, no levies applied in either the 1979 or 1980 seasons.

Dried Fruits Levy. The *Dried Fruits Levy Act* 1971 imposes a levy on dried fruits of a season received for packing in order to extend industry research programmes. The operative rates of levy are for dried vine fruits \$1.00 per tonne, dried tree fruits \$5.00 per tonne and prunes \$2.50 per tonne.

Apple and Pear Levies. The *Apple and Pear Levy Act* 1976 imposes a levy on the production and sale of apples and pears in Australia excluding fruit sent for export and pears delivered for the manufacture of canned fruit. The rates of the levy are: fresh market 5 cents per box; juicing 50 cents per tonne; processing \$1.00 per tonne.

The *Apple and Pear Export Charge Act* 1976 provides for the imposition of a charge on apples and pears exported from Australia. The rate of charge is 5 cents per box.

Monies collected from both the levy and the export charge are used to fund the operations of the Australian Apple and Pear Corporation.

Oilseeds Research Levy. The *Oilseeds Levy Act* 1977 imposes a levy on the production of sunflower seed, safflower seed, soybeans, linseed and rapeseed. The levy is used to fund research programmes. The operative rate of levy is \$1 per tonne.

Fishing Licences and Charges. Under the *Fisheries Act* 1952, domestic and foreign boats are licensed to fish in the Australian Fishing Zone. Other charges such as access fees for foreign countries are also levied under this Act. The rate of licence fees is set out in the Fisheries Regulations.

COMMONWEALTH PRIMARY PRODUCTION TAXES

(\$'000)

	1976-77	1977-78	1978-79	1979-80
Apple and pear export charge	121	162	212	197
Apple and pear export duty	—	—	129	11
Apple and pear levy	159	621	565	626
Butterfat levy	85	—	—	—
Canned fruit export charge (replaced by canned fruit levy 1.1.80)	195	131	176	133
Canning fruit charge	107	67	123	98
Dairy industry stabilization levy	—	53,085	80,255	93,549
Dairying research and promotion levy	3,077	3,360	5,674	5,689
Dried fruits export charge	197	147	227	189
Dried fruits levy	49	86	89	90
Honey export charge	22	13	24	56
Honey levy	158	158	186	199
Livestock slaughter levy—				
Cattle	5,389	5,928	5,734	7,305
Pigs	360	483	572	769
Sheep and lambs	1,546	1,377	1,311	3,165
Goats, buffalo, calves and bobby calves	—	—	—	282
Eradication of disease	8,562	10,498	9,710	20,453
Meat export charge—				
Cattle meat	69	98	31	46
Other meat	6	56	289	771
Oil seeds research levy	—	89	375	409
Meat chicken levy	160	183	189	234
Poultry industry levy	11,414	10,807	10,603	17,834
Tobacco charge	496	495	514	504
Wheat export charge	60,065	—	60,000	—
Wheat tax	1,641	1,286	3,466	3,085
Wine grapes charges (replaced by wine grapes levy 1.7.79)	1,035	1,109	1,030	1,174
Wool tax	94,093	89,129	101,608	121,400
Total	189,006	179,368	283,092	278,270

Pay-roll tax

Commonwealth pay-roll tax came into operation on 2 May 1941 and provided for the imposition of a tax on wages paid or payable in respect of any period of time occurring after 30 June 1941. The tax was payable by employers on all wages and salaries paid or payable in excess of a general exemption. The rate of tax, 2.5 per cent, was not changed after its inception, but the general exemption was increased over the years from \$173.33 to \$1,733.33 per month (\$2,080 per annum to \$20,800 per annum).

From 1 September 1971, in accordance with an agreement between the Commonwealth Government and the States following the June 1971 Premiers' Conference, the Commonwealth Government vacated the pay-roll tax field in favour of the States. It continued, however, to impose pay-roll tax in the Australian Capital Territory and the Northern Territory. The laws relating to pay-roll tax in the Territories are the *Pay-roll Tax (Territories) Assessment Act 1971* and the *Pay-roll Tax (Territories) Act 1971*.

From 1 December 1974 the rate of tax payable in the Territories has been 5 per cent with a statutory exemption of wages up to \$1,733.33 per month (\$20,800 per annum) or a proportion of that amount in the case of an employer who is an employer also in a State.

The *Pay-roll Tax (Territories) Assessment Act 1976* raised the level of the general exemption from pay-roll tax in the Territories from \$20,800 to \$48,000 per annum with effect from 1 January 1977. However the exemption was reduced by \$2 for every \$3 by which the annual pay-roll exceeded \$48,000. The maximum general exemption was increased to \$60,000 from 1 July 1978 under the *Pay-roll (Territories) Assessment Amendment Act 1978*. Commonwealth pay-roll tax in the Northern Territory was terminated from 1 July 1978 by the *Pay-roll Tax (Territories) Assessment Amendment Act (No. 2) 1978* giving the Territory the right to levy its own pay-roll tax.

The *Pay-roll Tax (Territories) Assessment Amendment Act 1979* increased the maximum exemption level in the Australian Capital Territory to \$66,000 with effect from 1 January 1979. The exemption level was further increased to \$72,000 with effect from 1 January 1980 under the *Pay-roll Tax (Territories) Assessment Amendment Act 1980*. Phasing out remains at \$2 for each \$3 by which the annual wages payable exceed the maximum exemption level.

Gross collections of pay-roll tax in 1978-79 and 1979-80 amounted to \$16,229,418 and \$15,706,287 respectively.

Gross operating surplus of public enterprises

The *gross operating surplus* of public *trading* enterprises is the excess over working expenses of total revenue from charges before providing for capital consumption and other costs of capital (i.e. interest, debt redemption). *Financial* enterprises do not charge directly, at least not in full, for the services they render; that expenditure is largely financed by net receipts of interest and other transfer income. By convention, the output of these enterprises is valued at cost, so that no operating surplus is recorded in their production accounts. The profits of these enterprises are attributable to their property income. *Income* (including depreciation) of public financial enterprises is therefore arrived at after deducting interest paid and working expenses (i.e. net current expenditure on goods and services) from total receipts of interest and non-dwelling rent.

In the following table the revenue, working expenses and gross operating surplus of public trading enterprises are shown; public financial enterprises are reflected simply on the basis of their income (including depreciation). Further information relating to the more important of these enterprises may be found in the chapters dealing with banking, housing, railways, electric power generation, etc.

**COMMONWEALTH AUTHORITIES: PUBLIC TRADING ENTERPRISES: REVENUE, WORKING
EXPENSES AND GROSS OPERATING SURPLUS, CLASSIFIED BY INDUSTRY**

(\$ million)

<i>Industry</i>	<i>1973-74</i>	<i>1974-75</i>	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>
REVENUE						
Manufacturing	28.5	34.0	48.9	54.7	58.5	65.0
Electricity	66.8	76.0	84.1	96.2	105.1	100.6
Water supply, sewerage and drainage	5.0	5.0	7.6	9.6	12.5	12.9
Transport and communication—						
Air transport	483.3	592.5	704.7	808.7	929.7	1,074.4
Rail transport	37.2	41.4	108.2	122.9	121.7	131.4
Sea transport	113.4	145.5	204.3	282.6	319.7	371.7
Urban transit systems	8.9	9.3	14.0	16.8	15.8	10.2
Pipelines	—	—	—	2.8	11.7	18.1
Communication	1,162.7	1,444.0	2,008.7	2,314.6	2,521.2	2,812.2
<i>Total transport, etc.</i>	<i>1,805.6</i>	<i>2,232.7</i>	<i>3,039.9</i>	<i>3,548.4</i>	<i>3,919.8</i>	<i>4,418.0</i>
Commerce	52.2	43.4	207.9	149.6	249.8	360.4
Property and business services—						
Housing	20.9	21.9	23.0	22.6	26.6	25.6
Other	11.8	18.7	25.5	25.7	36.5	38.7
<i>Total property, etc.</i>	<i>32.7</i>	<i>40.6</i>	<i>48.4</i>	<i>48.3</i>	<i>63.2</i>	<i>64.3</i>
Community, social and personal services	11.9	16.9	22.8	22.7	28.2	37.9
Total revenue	2,002.6	2,448.5	3,459.6	3,929.5	4,437.2	5,059.1
WORKING EXPENSES(a)						
Manufacturing	28.5	35.0	46.9	52.4	55.6	59.4
Electricity	18.6	29.3	37.3	48.3	56.9	39.7
Water supply, sewerage and drainage	3.1	3.9	4.9	6.1	7.3	5.8
Transport and communication—						
Air transport	413.3	550.7	647.6	722.7	833.8	969.2
Rail transport	38.8	50.6	154.3	170.1	184.9	187.0
Sea transport	95.5	136.8	184.2	231.2	260.4	312.8
Urban transit systems	9.8	12.3	16.7	19.1	19.9	16.0
Pipelines	—	—	—	1.4	3.4	3.1
Communication	778.0	986.1	1,219.8	1,456.4	1,600.6	1,769.8
<i>Total transport, etc.</i>	<i>1,335.3</i>	<i>1,736.4</i>	<i>2,222.6</i>	<i>2,601.0</i>	<i>2,903.0</i>	<i>3,258.0</i>
Commerce	54.1	68.6	248.3	160.7	255.0	348.6
Property and business services—						
Housing	19.3	23.9	24.4	24.4	27.7	30.0
Other	11.0	18.2	24.3	23.8	35.0	37.0
<i>Total property, etc.</i>	<i>30.3</i>	<i>42.1</i>	<i>48.8</i>	<i>48.2</i>	<i>62.7</i>	<i>67.0</i>
Community, social and personal services	9.1	14.1	19.7	19.1	24.0	33.0
Total working expenses	1,479.1	1,929.3	2,628.4	2,935.7	3,364.5	3,811.5
GROSS OPERATING SURPLUS						
Manufacturing	-0.1	-1.0	2.0	2.3	2.9	5.6
Electricity	48.2	46.7	46.8	47.9	48.2	60.9
Water supply, sewerage and drainage	1.9	1.1	2.6	3.5	-5.2	7.0
Transport and communication—						
Air transport	70.0	41.8	57.1	86.0	95.9	105.1
Rail transport	-1.6	-9.2	-46.1	-47.2	-63.2	-55.5
Sea transport	18.0	8.7	20.1	51.4	59.4	58.9
Urban transit systems	-0.8	-3.0	-2.7	-2.4	-4.1	-5.8
Pipelines	—	—	—	1.4	8.3	15.0
Communication	384.7	458.0	788.9	858.2	920.7	1,042.3
<i>Total transport, etc.</i>	<i>470.3</i>	<i>496.3</i>	<i>817.3</i>	<i>947.5</i>	<i>1,016.9</i>	<i>1,160.0</i>
Commerce	-1.9	-25.1	-40.4	-11.1	-5.3	11.8
Property and business services—						
Housing	1.6	-2.1	-1.5	-1.8	-1.1	-4.4
Other	0.7	0.5	1.2	1.8	1.5	1.7
<i>Total property, etc.</i>	<i>2.3</i>	<i>-1.6</i>	<i>-0.3</i>	<i>0.1</i>	<i>0.5</i>	<i>-2.7</i>
Community, social and personal services	2.8	2.9	3.2	3.6	4.2	5.0
Total gross operating surplus	523.5	519.2	831.2	993.8	1,072.7	1,247.6

(a) Exclude depreciation and interest charges.

STATE AUTHORITIES

The State authorities dealt with in this section include the central government of each State, statutory bodies created by or under State legislation to carry out activities on behalf of the central government, and incorporated organisations in which individual State governments have a controlling interest.

On 1 July 1978 the Northern Territory became self-governing with expenditure responsibilities and revenue raising powers broadly approximating those of a State. In the period up to and including 1977–78 receipts and outlays relating to the Northern Territory are included with Commonwealth receipts and outlays but from 1978–79 onwards they have been grouped with the receipts and outlays of State authorities.

The transactions of many of the State authorities are itemised in State Consolidated Revenue Funds or in Trust Funds, so that a satisfactory coverage of their transactions can be obtained from a detailed analysis and reclassification of the published accounts whose receipts and payments are summarised in the statement of Treasury balances for each State. The remaining statutory bodies and other publicly owned or controlled organisations maintain accounts entirely, or largely, separate from the public accounts, although there may be transactions between them and State governments (such as advances and capital contributions, interest and dividends, and votes for running expenses and capital works) which would affect the public accounts. The accounting reports of this group of organisations have to be collected and analysed in order to present a complete statement of the transactions of State authorities—or at least methods of analysis need to be adopted which adequately reflect their transactions so that they are, in principle, covered by the statistics.

In the figures which follow in this section, all expenditure by State central government authorities on certain institutions, whether direct (e.g. new building charged to Loan Fund) or indirect by way of current or capital grants to the bodies administering them, has been treated as final expenditure on goods and services by State authorities; fees and gifts from persons or private businesses to these institutions are not included, nor is the expenditure of the institutions from their own resources. Universities and hospitals are particular examples of organisations for which this practice has been adopted.

Many of these State authorities have been granted autonomy by State legislatures to the extent that they are largely financially independent. Some of these are funded from earmarked tax revenues and are vested with independent borrowing powers. A considerable number of others belong to the category of public enterprises, since they are able to charge for their services so as to cover their costs of operation. These bodies have usually been created to control a specific activity or provide a specific service within a State. It is often the case that in other States similar activities are carried out, or services are provided, by central government or local authorities. Details of the activities of autonomous or semi-autonomous State authorities engaged in such fields as construction and maintenance of roads and bridges, provision of water supply and sewerage services, harbour facilities, transport, electricity and gas, housing and banking may be found in chapters relevant to those subjects and in State Year Books.

Details of the transactions of State authorities are given in the tables which follow. Reference should be made to the introduction of *State and Local Government Finance, Australia 1978–79* (5504.0) for definitions and descriptions of items appearing in these tables, and also for further details of the organisations covered by the figures. Additional information relating to the activities of the State authorities may also be found in the Year Books of the individual States.

Outlay and receipts

The outlay and receipts of State authorities for the six year period ended 1978-79 are given in the following table.

STATE AUTHORITIES(a): OUTLAY AND RECEIPTS

(\$ million)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
OUTLAY						
Final consumption expenditure	3,642.9	5,240.6	6,825.3	8,144.7	9,250.0	10,229.1
Gross capital formation—						
Increase in stocks	16.0	55.2	30.8	29.7	62.1	35.5
Expenditure on new fixed assets	2,277.8	3,309.4	3,906.8	4,190.0	4,760.8	5,199.8
Expenditure on existing assets (net)	181.0	239.4	183.8	148.3	113.5	82.3
<i>Total gross capital formation</i>	<i>2,474.7</i>	<i>3,604.0</i>	<i>4,121.4</i>	<i>4,368.0</i>	<i>4,936.4</i>	<i>5,317.6</i>
Transfer payments—						
Interest	952.9	1,058.6	1,200.1	1,432.8	1,693.0	1,920.0
Transfers to persons	166.1	185.4	220.2	247.2	280.2	285.4
Subsidies	32.8	42.3	47.9	58.9	88.0	100.9
Transfers overseas	—	—	0.1	0.1	0.1	0.1
Grants for private capital purposes	30.5	53.9	54.4	48.4	61.7	72.6
Grants to local authorities	159.0	282.6	345.5	411.0	476.7	512.6
<i>Total transfer payments</i>	<i>1,341.4</i>	<i>1,622.9</i>	<i>1,868.1</i>	<i>2,198.5</i>	<i>2,599.7</i>	<i>2,891.6</i>
Net advances—						
To the private sector	37.9	147.4	169.1	189.6	212.0	110.7
To public financial enterprises	62.0	91.4	84.7	83.4	109.0	87.3
To local authorities	6.0	17.9	18.6	16.0	9.3	12.8
<i>Total net advances</i>	<i>105.8</i>	<i>256.7</i>	<i>272.5</i>	<i>289.0</i>	<i>330.3</i>	<i>210.8</i>
Total outlay	7,564.9	10,724.2	13,087.2	15,000.2	17,116.5	18,649.1
<i>of which—</i>						
current outlay	4,832.3	6,632.6	8,433.4	10,085.0	11,556.7	12,805.1
capital outlay	2,732.5	4,091.6	4,653.8	4,915.3	5,559.8	5,844.0
RECEIPTS AND FINANCING ITEMS						
Receipts—						
Taxes, fees, fines, etc.	2,206.4	2,792.0	3,469.4	3,973.3	4,300.1	4,667.5
Income from public enterprises	296.7	206.0	330.5	353.6	379.7	452.3
Interest, etc., received	318.8	425.6	443.8	591.6	709.9	752.9
Grants from the Commonwealth Government—						
for current purposes	2,533.4	3,735.0	5,427.5	6,110.2	7,215.3	8,137.9
for capital purposes	898.6	1,409.8	1,556.6	1,537.3	1,508.9	1,483.8
Grants for local authorities	22.6	25.9	32.6	32.3	36.2	35.5
<i>Total receipts</i>	<i>6,276.5</i>	<i>8,594.3</i>	<i>11,260.3</i>	<i>12,598.3</i>	<i>14,150.2</i>	<i>15,529.9</i>
Financing items—						
Net borrowing—						
Public trading enterprises	336.5	413.8	560.0	661.6	884.4	1,205.8
General government	60.8	75.2	113.2	127.3	120.6	204.5
Advances from the Commonwealth Government (net)—						
For loan works purposes	448.0	592.2	708.7	744.7	784.8	770.6
Other	300.7	632.7	663.8	533.4	476.3	356.6
Net receipts of private trust funds	104.5	151.4	32.7	244.1	230.5	242.8
Reduction in cash and bank balances	-253.1	-32.3	-743.0	-406.9	-31.2	-235.2
Reduction in security holdings—						
Investment of private trust funds	-34.2	-51.0	11.8	-61.8	-96.3	-114.8
Investment of governmental trust funds and public corporations	-58.5	3.9	-4.2	-57.8	-119.8	-85.3
Other funds available (including errors and omissions)—						
Depreciation allowances	292.1	270.0	313.2	356.9	419.7	469.9
Other	91.6	74.0	170.7	260.5	297.3	304.3
<i>Total financing items</i>	<i>1,288.4</i>	<i>2,129.9</i>	<i>1,826.8</i>	<i>2,402.0</i>	<i>2,966.3</i>	<i>3,119.2</i>
Total funds available	7,564.9	10,724.2	13,087.2	15,000.2	17,116.5	18,649.1

(a) Excludes financial enterprises.

The following table provides details of the outlay and receipts of State authorities in each of the six States and the Northern Territory.

STATE AUTHORITIES(a): OUTLAY AND RECEIPTS BY STATE, 1978-79

(\$ million)

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>Total</i>
OUTLAY								
Final consumption expenditure	3,442.3	2,723.6	1,446.2	1,038.5	1,057.6	383.4	137.4	10,229.1
Gross capital formation —								
Increase in stocks	11.7	7.3	7.3	-0.1	6.4	0.5	2.5	35.5
Expenditure on new fixed assets	1,609.8	1,444.8	842.6	404.7	553.7	205.5	138.7	5,199.8
Expenditure on existing assets (net)	29.4	43.9	-3.7	23.1	-5.2	-3.1	-2.1	82.3
<i>Total gross capital formation</i>	<i>1,650.9</i>	<i>1,496.0</i>	<i>846.2</i>	<i>427.7</i>	<i>554.9</i>	<i>202.8</i>	<i>139.1</i>	<i>5,317.6</i>
Transfer payments								
Interest	583.7	585.3	293.9	204.1	163.1	89.8	0.1	1,920.0
Transfers to persons	124.7	65.6	37.6	20.0	25.3	12.3	—	285.4
Subsidies	35.0	27.1	22.5	6.8	4.2	3.5	1.8	100.9
Transfers overseas	0.1	—	—	—	—	—	—	0.1
Grants for private capital purposes	25.7	23.4	11.1	7.2	3.3	0.8	1.2	72.6
Grants to local authorities	167.9	133.8	104.1	32.5	49.9	17.9	6.5	512.6
<i>Total transfer payments</i>	<i>937.1</i>	<i>835.1</i>	<i>469.2</i>	<i>270.6</i>	<i>245.8</i>	<i>124.2</i>	<i>9.7</i>	<i>2,891.6</i>
Net advances —								
To the private sector	-6.8	61.2	13.1	13.7	15.5	3.1	10.9	110.7
To public financial enterprises	48.8	2.8	—	35.7	—	—	—	87.3
To local authorities	0.2	2.9	7.6	-0.1	-2.2	4.4	—	12.8
<i>Total net advances</i>	<i>42.3</i>	<i>66.9</i>	<i>20.7</i>	<i>49.2</i>	<i>13.3</i>	<i>7.5</i>	<i>10.9</i>	<i>210.8</i>
<i>Total outlay</i>	<i>6,072.6</i>	<i>5,121.6</i>	<i>2,782.3</i>	<i>1,786.0</i>	<i>1,871.6</i>	<i>717.9</i>	<i>297.1</i>	<i>18,649.1</i>
of which —								
current outlay	4,280.1	3,484.6	1,842.8	1,286.6	1,269.9	499.7	141.5	12,805.1
capital outlay	1,792.5	1,637.1	939.5	499.4	601.7	218.3	155.6	5,844.0
RECEIPTS AND FINANCING ITEMS								
Receipts								
Taxes, fees, fines, etc.	1,849.3	1,384.3	545.9	382.4	375.7	111.2	18.8	4,667.5
Income from public enterprises	21.8	223.8	96.4	47.1	27.4	51.0	-15.1	452.3
Interest, etc., received	214.1	159.6	170.2	74.1	104.9	21.6	8.5	752.9
Grants from the Commonwealth Government —								
for current purposes	2,540.0	1,926.0	1,297.9	859.6	890.6	333.9	289.8	8,137.9
for capital purposes	478.1	355.5	261.4	153.9	160.9	74.0	0.1	1,483.8
Grants from local authorities	14.0	9.0	5.5	2.1	2.3	2.6	—	35.5
<i>Total receipts</i>	<i>5,117.3</i>	<i>4,058.1</i>	<i>2,377.3</i>	<i>1,519.2</i>	<i>1,561.7</i>	<i>594.2</i>	<i>302.0</i>	<i>15,529.9</i>
Financing items —								
Net borrowing								
Public trading enterprises	361.8	511.6	158.3	52.8	70.1	51.2	—	1,205.8
General government	59.4	5.8	103.3	16.5	18.7	0.8	—	204.5
Advances from the Commonwealth Government (net) —								
For loan works purposes	246.3	194.3	102.0	101.5	70.3	56.2	—	770.6
Other	114.8	90.0	34.7	60.5	42.1	16.3	-1.8	356.6
Net receipts of private trust funds	15.0	44.0	139.3	13.9	18.4	12.2	—	242.8
Reduction in cash and bank balances	-23.0	44.5	-179.7	-51.6	7.6	-27.1	-6.0	-235.2
Reduction in security holdings —								
Investments of private trust funds	-3.9	-62.7	—	-11.7	-25.5	-11.1	—	-114.8
Investments of governmental trust funds and public corporations	-52.2	-22.6	-23.4	2.1	2.0	8.8	—	-85.3
Other funds available (including errors and omissions)	168.3	140.0	55.7	42.9	45.9	11.1	6.1	469.9
Depreciation allowances	68.8	118.4	14.7	39.9	60.3	5.3	-3.2	304.3
Other	—	—	—	—	—	—	—	—
<i>Total financing items</i>	<i>955.2</i>	<i>1,063.5</i>	<i>405.0</i>	<i>266.8</i>	<i>309.9</i>	<i>123.7</i>	<i>-4.9</i>	<i>3,119.2</i>
<i>Total funds available</i>	<i>6,072.6</i>	<i>5,121.6</i>	<i>2,782.3</i>	<i>1,786.0</i>	<i>1,871.6</i>	<i>717.9</i>	<i>297.1</i>	<i>18,649.1</i>

(a) Excludes financial enterprises.

STATE AUTHORITIES, 1978-79

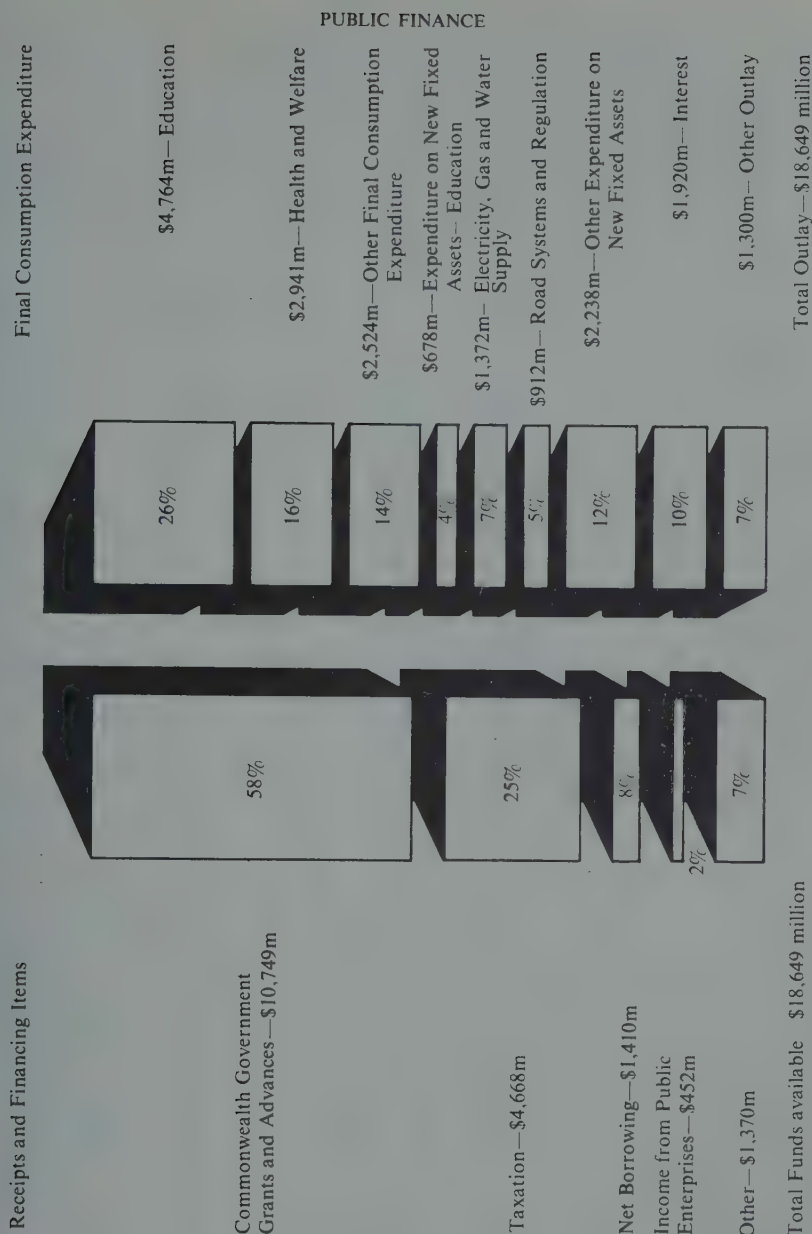


PLATE 44

Main components of outlay

The main component of the outlay of State authorities is expenditure on goods and services. As in the case of authorities of the Commonwealth Government, this expenditure consists mainly of final consumption expenditure and expenditure on new fixed assets. The following tables show final consumption expenditure and expenditure on new fixed assets classified by purpose for State authorities.

STATE AUTHORITIES: FINAL CONSUMPTION EXPENDITURE CLASSIFIED BY PURPOSE (\$ million)

Purpose	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
General public services—						
Law, order and public safety	392.4	541.0	658.9	771.8	882.2	993.4
General administration, n.e.c.	238.8	332.8	413.8	508.8	591.1	670.5
Education	1,794.3	2,596.3	3,224.6	3,874.2	4,389.1	4,764.3
Health	796.6	1,209.4	1,838.1	2,212.9	2,487.1	2,762.2
Social security and welfare	61.1	87.6	105.8	120.3	145.7	179.2
Housing and community amenities—						
Housing	2.1	2.9	4.2	5.8	5.8	6.7
Community and regional development	9.2	16.6	21.7	24.3	26.8	35.6
Protection of the environment, and community amenities	6.7	12.0	17.6	22.1	24.7	27.8
Recreation and culture	42.5	58.6	79.4	97.6	122.2	146.7
Economic services—						
Agriculture, forestry, fishing	179.3	225.9	266.6	295.5	337.9	367.6
Mining, manufacturing and construction	28.7	37.0	45.3	48.4	54.3	62.2
Electricity, gas and water supply	0.9	4.4	7.6	6.1	7.3	10.8
Rail transport (a)	—	1.1	1.2	0.8	0.9	0.4
Sea transport	3.8	3.9	4.1	4.6	5.3	2.5
Road systems and regulation	9.5	10.2	11.4	14.3	13.9	17.8
Other transport services, n.e.c.	1.8	2.4	4.5	4.2	4.1	17.2
Other economic services (b)	71.3	97.4	119.5	131.9	149.5	162.2
Other purposes	0.9	1.3	0.9	1.3	2.1	2.0
Total	3,642.9	5,240.6	6,825.3	8,144.7	9,250.0	10,229.1

(a) Includes suburban rail transport systems.

(b) Includes general administration, regulation and research.

STATE AUTHORITIES: FINAL CONSUMPTION EXPENDITURE CLASSIFIED BY PURPOSE 1978-79 (\$ million)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Total
General public services—								
Law, order and public safety	339.2	224.9	160.7	95.6	109.2	38.7	25.1	993.4
General administration, n.e.c.	247.7	146.0	109.8	49.5	58.0	30.9	28.7	670.5
Education	1,600.8	1,411.5	634.4	508.2	448.2	161.3	—	4,764.3
Health	991.7	687.3	359.6	277.7	322.3	94.1	29.7	2,762.2
Social security and welfare	37.4	55.3	33.1	20.1	17.3	4.3	11.6	179.2
Housing and community amenities—								
Housing	2.0	1.8	0.1	0.9	0.5	0.8	0.6	6.7
Community and regional development	11.1	13.3	-0.2	4.8	0.1	0.6	5.9	35.6
Protection of the environment, and community amenities	6.6	11.6	2.7	3.7	2.1	1.1	-0.1	27.8
Recreation and culture	35.2	32.7	18.3	20.8	20.8	10.6	8.6	146.7
Economic services—								
Agriculture, forestry, fishing	98.5	80.7	98.0	29.0	31.5	23.4	6.8	367.6
Mining, manufacturing and construction	20.8	6.6	7.7	7.9	12.6	3.2	3.5	62.2
Electricity, gas and water supply	2.6	-1.9	3.6	0.1	5.7	0.8	—	10.8
Rail transport (a)	—	—	—	—	0.4	—	—	0.4
Sea transport	2.7	-0.1	-1.6	1.3	0.2	0.1	—	2.5
Road systems and regulation	0.7	9.0	3.4	1.6	1.2	—	1.9	17.8
Other transport services, n.e.c.	1.3	1.8	0.2	0.3	0.6	0.2	12.8	17.2
Other economic services (b)	44.0	42.6	16.3	17.4	26.5	12.9	2.4	162.2
Other purposes	0.1	0.8	—	—	0.8	0.2	—	2.0
Total	3,442.3	2,723.6	1,446.2	1,038.5	1,057.6	383.4	137.4	10,229.1

(a) Includes suburban rail transport systems.

(b) Includes general administration, regulation and research.

STATE AUTHORITIES(a): EXPENDITURE ON NEW FIXED ASSETS CLASSIFIED BY PURPOSE
(\$ million)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
General public services—						
Law, order and public safety	39.3	46.9	63.8	73.3	91.0	99.9
General administration, n.e.c.	37.9	60.5	82.1	87.6	112.1	115.9
Education	349.0	609.2	618.2	574.2	659.9	677.8
Health	123.8	204.0	326.9	334.0	322.8	332.2
Social security and welfare	8.1	8.3	8.8	12.1	10.7	11.9
Housing and community amenities—						
Housing	114.1	270.3	260.0	237.0	295.1	282.2
Community and regional development	2.2	11.3	35.2	43.7	37.1	35.2
Protection of the environment, and community amenities	236.8	298.4	330.9	343.2	350.9	341.0
Recreation and culture	20.7	18.6	25.2	33.5	51.4	61.6
Economic services—						
Agriculture, forestry, fishing	109.0	147.2	175.3	206.3	222.1	219.5
Mining, manufacturing and construction	42.8	59.7	61.9	61.8	68.0	55.5
Electricity and gas	340.0	435.8	538.1	650.1	834.5	1,099.9
Water supply	153.3	198.7	238.2	260.0	276.1	272.0
Rail transport (b)	139.5	217.8	277.0	312.9	386.6	439.5
Sea transport	62.9	76.2	84.9	94.8	117.3	147.9
Road systems and regulation	460.7	580.0	688.3	770.2	828.7	911.7
Other transport services, n.e.c.	6.5	18.0	31.2	29.9	38.7	42.4
Other economic services (c)	29.5	48.8	60.4	64.9	57.2	52.3
Other purposes	1.8	-0.3	0.1	0.5	0.8	1.3
Total	2,277.8	3,309.4	3,906.8	4,190.0	4,760.8	5,199.8

(a) Excludes financial enterprises. (b) Includes suburban rail transport systems. (c) Includes general administration, regulation and research.

STATE AUTHORITIES(a): EXPENDITURE ON NEW FIXED ASSETS CLASSIFIED BY PURPOSE
1978-79
(\$ million)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Total
General public services—								
Law, order and public safety	21.6	27.0	12.9	10.9	16.7	5.0	5.7	99.9
General administration, n.e.c.	34.5	9.1	44.2	3.6	7.6	8.4	8.5	115.9
Education	230.9	188.4	95.6	72.9	62.9	26.9	—	677.8
Health	83.4	67.0	62.2	36.3	54.2	18.5	10.5	332.2
Social security and welfare	4.5	1.4	3.1	1.5	1.0	0.2	0.1	11.9
Housing and community amenities—								
Housing	116.5	37.1	14.5	12.5	38.8	25.8	37.1	282.2
Community and regional development	28.4	0.7	—	1.9	1.2	—	3.0	35.2
Protection of the environment, and community amenities	158.4	113.9	0.2	26.8	39.5	—	2.3	341.0
Recreation and culture	7.7	22.7	6.5	14.1	5.4	2.3	3.0	61.6
Economic services—								
Agriculture, forestry, fishing	63.3	53.6	38.5	20.7	31.0	11.2	1.2	219.5
Mining, manufacturing and construction	15.1	24.1	8.7	3.7	3.3	0.3	0.3	55.5
Electricity and gas	204.2	428.4	210.6	61.9	111.3	59.8	23.6	1,099.9
Water supply	52.6	124.9	14.4	22.9	44.8	4.1	8.2	272.0
Rail transport (b)	179.7	113.3	126.3	—	19.2	1.0	—	439.5
Sea transport	61.3	22.7	36.4	6.2	16.8	2.0	2.5	147.9
Road systems and regulation	319.5	180.4	167.8	80.6	94.1	36.8	32.4	911.7
Other transport services, n.e.c.	3.0	10.3	—	25.1	2.6	1.6	0.1	42.4
Other economic services (c)	25.8	19.5	0.5	3.1	1.6	1.7	0.2	52.3
Other purposes	-0.8	0.1	—	—	2.0	—	—	1.3
Total	1,609.8	1,444.8	842.6	404.7	553.7	205.5	138.7	5,199.8

(a) Excludes financial enterprises. (b) Includes suburban rail transport systems. (c) Includes general administration, regulation and research.

Main components of receipts

The major source of funds available to State authorities is in the form of financial assistance by way of grants and advances from the Commonwealth Government. Taxation is also an important source of revenue, and central government borrowing by way of Commonwealth Government securities issued on behalf of the States, as well as borrowing by statutory bodies, accounted for a significant proportion of the total funds available.

Details of Commonwealth Government financial assistance to the States have already been given in the section dealing with Commonwealth Government authorities, and government borrowing activities are dealt with later in this chapter.

The following tables provide details of the taxes collected by State authorities classified by type of tax. Further information relating to State taxes may be found in *Taxation Revenue, Australia* (5506.0).

STATE AUTHORITIES: TAXATION BY TYPE OF TAX

(\$ million)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Estate, gift, probate and succession duties	185.6	198.1	226.9	251.5	241.1	205.4
Property taxes—						
Land tax	122.1	168.6	200.1	218.1	236.6	258.0
Metropolitan improvement rates	12.2	12.8	15.1	15.8	16.2	18.1
Other	1.6	1.7	1.7	1.6	1.4	1.1
<i>Total property</i>	<i>135.9</i>	<i>183.1</i>	<i>216.9</i>	<i>235.5</i>	<i>254.2</i>	<i>277.2</i>
Liquor taxes	57.5	75.6	95.8	120.9	140.6	155.2
Taxes on gambling—						
Lotteries	48.5	67.9	85.9	109.6	129.2	149.0
Poker machines	50.8	71.9	83.4	92.0	98.2	108.0
Racing	105.6	136.0	161.9	180.5	194.1	205.4
Other	1.6	3.3	9.0	12.0	12.5	17.3
<i>Total gambling</i>	<i>206.5</i>	<i>279.1</i>	<i>340.2</i>	<i>394.1</i>	<i>434.0</i>	<i>479.7</i>
Taxes on ownership and operation of motor vehicles—						
Vehicle registration fees and taxes	240.2	284.1	334.3	397.0	461.3	499.7
Drivers', etc., licences and fees	29.2	43.1	54.3	59.9	60.4	74.1
Stamp duty on vehicle registration	39.7	51.5	84.2	116.5	126.0	141.0
Road transport taxes	17.2	15.2	15.6	15.9	14.5	13.8
Road maintenance contributions	43.3	44.4	44.4	44.7	44.5	45.3
Motor car third party insurance surcharge and duties	7.4	9.8	12.5	12.9	13.4	13.7
<i>Total motor vehicles</i>	<i>377.0</i>	<i>448.0</i>	<i>545.2</i>	<i>646.9</i>	<i>720.1</i>	<i>787.7</i>
Pay-roll tax	666.5	998.0	1,161.3	1,306.1	1,418.7	1,526.6
Fire brigades contributions from insurance companies, etc.	46.4	66.1	85.3	99.0	113.0	120.1
Stamp duties, n.e.i.	431.6	389.3	550.8	666.8	702.6	800.2
Fees from regulatory services, n.e.i.	20.9	26.3	37.7	44.2	48.4	54.7
Other taxes, fees, fines, etc.	78.4	128.5	209.3	208.5	227.4	260.7
<i>Total taxation</i>	<i>2,206.4</i>	<i>2,792.0</i>	<i>3,469.4</i>	<i>3,973.3</i>	<i>4,300.1</i>	<i>4,667.5</i>

STATE AUTHORITIES: TAXATION BY TYPE OF TAX, 1978-79

(\$ million)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Total
Estate, gift, probate and succession duties	97.5	63.0	6.9	17.4	15.1	5.5	—	205.4
Property taxes—								
Land tax	128.0	69.5	16.0	22.0	17.6	4.9	—	258.0
Metropolitan improvement rates	—	14.8	—	—	3.3	—	—	18.1
Other	0.3	—	—	0.6	0.2	—	—	1.1
<i>Total property</i>	<i>128.3</i>	<i>84.3</i>	<i>16.0</i>	<i>22.6</i>	<i>21.1</i>	<i>4.9</i>	<i>—</i>	<i>277.2</i>
Liquor taxes	60.9	37.2	25.9	11.2	14.4	4.2	1.4	155.2
Taxes on gambling—								
Lotteries	33.4	82.0	9.5	15.2	6.2	2.5	0.2	149.0
Poker machines	108.0	—	—	—	—	—	—	108.0
Racing	84.7	67.3	23.3	11.1	15.1	3.0	0.9	205.4
Other	8.5	2.7	3.2	—	—	2.9	—	17.3
<i>Total gambling</i>	<i>234.6</i>	<i>152.0</i>	<i>36.0</i>	<i>26.3</i>	<i>21.3</i>	<i>8.4</i>	<i>1.1</i>	<i>479.7</i>
Taxes on ownership and operation of motor vehicles—								
Vehicle registration fees and taxes	171.5	140.6	73.7	45.6	48.8	17.0	2.5	499.7
Drivers', etc., licences and fees	27.9	24.3	9.3	4.0	6.2	2.4	—	74.1
Stamp duty on vehicle registration	53.1	47.7	12.2	17.6	6.2	4.3	—	141.0
Road transport taxes	1.4	7.4	1.5	0.1	2.3	1.1	—	13.8
Road maintenance contributions	19.6	9.6	5.5	4.8	5.7	0.2	—	45.3
Motor car third party insurance surcharge and duties	—	7.9	—	1.9	3.4	0.5	—	13.7
<i>Total motor vehicles</i>	<i>273.5</i>	<i>237.5</i>	<i>102.2</i>	<i>74.0</i>	<i>72.6</i>	<i>25.5</i>	<i>2.5</i>	<i>787.7</i>
Pay-roll tax	613.2	427.4	186.5	123.1	126.9	39.2	10.4	1,526.6
Fire brigades contributions from insurance companies, etc.	33.7	37.3	22.3	8.9	13.8	4.1	—	120.1
Stamp duties, n.e.i.	294.9	247.7	113.6	65.9	59.9	16.3	1.9	800.2
Fees from regulatory services, n.e.i.	20.2	14.9	11.1	3.3	3.6	0.7	0.8	54.7
Other taxes, fees, fines, etc.	92.6	83.1	25.2	29.7	27.0	2.4	0.7	260.7
<i>Total taxation</i>	<i>1,849.3</i>	<i>1,384.3</i>	<i>545.9</i>	<i>382.4</i>	<i>375.7</i>	<i>111.2</i>	<i>18.8</i>	<i>4,667.5</i>

LOCAL AUTHORITIES

In each State of Australia and in the Northern Territory there exists a system of local government whose powers and responsibilities are generally similar and cover such matters as the construction and maintenance of roads, streets and bridges; water, sewerage and drainage systems; health and sanitary services; the supervision of building; and the administration of regulations relating to items such as weights and measures, slaughtering, the registration of dogs, etc. In addition to these obligatory functions, there are also many which may be performed by a local authority either with or without the consent of the ratepayers or the Governor-in-Council. These include transport facilities, electricity, gas and other business undertakings, hospitals, charitable institutions, recreation grounds, parks, swimming pools, libraries, museums, etc.

The system is based on the principle of a grant of specific powers by the State legislatures to the local authorities, their autonomy, however, being more or less limited by the provision for general supervision by a department of the central government or by the Governor-in-Council. Otherwise, within the scope of the Acts under which they are constituted or which they have to administer, they are responsible only to the ratepayers. While the broad pattern of local government throughout the States of Australia is similar, the range of activities, election of officers, methods of valuation and rating powers, etc. vary considerably from State to State, and even within States.

On 1 July 1978, the Northern Territory became self-governing with expenditure responsibilities and revenue raising powers broadly approximating those of a State. In the period up to and including 1977-78 receipts and outlays relating to the Northern Territory are included with Commonwealth receipts and outlays but from 1978-79 onwards they have been grouped with the receipts and outlays of State and local authorities.

The areas over which local government bodies, numbering almost 900, exercise general control, are known in New South Wales as cities, municipalities and shires; in Victoria as cities, towns, boroughs and shires; in Queensland as cities, towns and shires; in South Australia as cities, corporate towns and district council areas; in Western Australia as cities, towns and shires; and in Tasmania as cities and municipalities; and in the Northern Territory as cities and municipalities. In New South Wales some local authorities in an area have combined to form county councils which provide services such as electricity and water supply. Within shires there are also some municipal units known as urban areas. Apart from the more sparsely populated parts of New South Wales, South Australia and the Northern Territory and, the Australian Capital Territory, practically the whole of Australia comes within local government jurisdiction. For further details *see* State Year Books.

Area, population, dwellings, and rates and penalties for ordinary services

The area, population, dwellings, and the amount of rates and penalties for ordinary services in the incorporated areas of each State are shown in the following table. Particulars of dwellings are in accordance with the definition used in the Census, and are compiled from information collected on the Census schedules. In the table, where the boundary of a capital city statistical division cuts across a local government area, the area of that capital city statistical division has been estimated. Particulars of population for capital city statistical divisions take account of those local government areas which overlap with capital city statistical division boundaries.

The item 'Rates and Penalties for Ordinary Services' relates to general and other special or local rates (excluding water and sewerage rates) levied or declared or, where the cash accounting system operates, the rates collected.

LOCAL GOVERNMENT AUTHORITIES: AREA, POPULATION, DWELLINGS, AND RATES AND PENALTIES FOR ORDINARY SERVICES—30 JUNE 1978

<i>Location(a)</i>	<i>No. of local authorities</i>	<i>Area</i>	<i>Population</i>	<i>Dwellings(b)</i>	<i>Rates and penalties— ordinary services</i>
		square kilometres	'000	'000	\$'000
New South Wales—					
Sydney Statistical Division	45	12,406	3,155	1,076	(c) 278,611
Other	160	693,254	1,850	603	(c) 168,177
<i>Total New South Wales</i>	205	705,660	5,005	1,679	(c) 446,788
Victoria—					
Melbourne Statistical Division	56	6,110	2,718	913	(d) 239,449
Other	155	220,990	1,100	369	(d) 90,500
<i>Total Victoria</i>	211	227,100	3,818	1,282	(d) 329,949
Queensland—					
Brisbane Statistical Division	9	3,080	1,005	328	67,797
Other	122	1,722,946	1,161	364	89,707
<i>Total Queensland</i>	131	1,726,026	2,166	692	157,504
South Australia—					
Adelaide Statistical Division	34	1,842	931	328	62,572
Other	98	149,681	343	128	22,896
<i>Total South Australia</i>	132	151,523	1,274	456	85,468
Western Australia—					
Perth Statistical Division	26	5,364	865	292	54,957
Other	112	2,522,675	357	110	24,866
<i>Total Western Australia</i>	138	2,528,039	1,222	402	79,823
Tasmania—					
Hobart Statistical Division	7	940	167	56	13,859
Other	42	67,394	247	86	18,840
<i>Total Tasmania</i>	49	68,334	414	142	32,699

(a) Unincorporated areas are excluded in all States. (b) Dwelling figures are intercensal estimates of stocks of dwellings. (c) Based on year ended 31 December 1977. (d) Based on year ended 30 September 1978.

Receipts, financing items and outlay

The following tables show details of the receipts, financing items and outlay of all local authorities for the years 1973-74 to 1978-79, and of local authorities in each of the six States in 1978-79. Figures shown for 1978-79 are based on limited data and may be subject to significant revision as more complete accounting information is collected.

LOCAL AUTHORITIES: OUTLAY AND RECEIPTS

(\$ million)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
OUTLAY						
Final consumption expenditure—						
General public services	115.3	159.1	197.8	232.7	273.3	301.0
Education	2.9	4.6	7.4	8.5	11.1	12.7
Health	26.6	32.6	40.0	41.6	46.7	52.8
Social security and welfare	7.2	10.2	14.0	17.8	23.1	28.0
Housing and community amenities—						
Community and regional development	6.4	10.0	11.4	13.5	13.8	17.5
Protection of the environment	35.2	49.2	53.8	63.1	66.8	77.7
Other	5.1	7.4	10.1	10.6	13.1	15.4
Recreation and culture	77.7	115.0	159.4	167.4	194.6	219.7
Economic services	31.5	37.6	45.1	50.7	61.3	72.0
Other purposes	0.4	1.1	2.2	2.0	5.9	7.3
Total	308.1	426.5	541.3	607.9	709.9	804.0
Gross capital formation—						
Expenditure on new fixed assets—						
General public services	52.3	89.2	101.1	105.0	157.3	174.2
Education	0.7	1.9	3.2	4.2	1.5	1.5
Health	0.9	1.1	2.4	2.4	2.1	3.3
Social security and welfare	2.6	3.8	5.8	6.5	5.2	7.6
Housing and community amenities—						
Community and regional development	2.6	1.5	3.4	4.4	9.2	11.6
Protection of the environment	58.3	101.3	121.8	126.7	128.0	130.3
Other	2.5	4.3	8.0	9.0	8.5	6.0
Recreation and culture	36.0	55.0	85.9	75.5	90.5	114.2
Economic services—						
Mining, manufacturing and construction	2.3	4.7	10.8	8.6	7.2	7.9
Electricity and gas	75.7	94.5	112.7	131.4	120.9	121.8
Water supply	40.3	46.2	61.0	60.9	75.3	88.0
Road systems and regulation	370.8	493.3	599.6	607.0	650.7	713.3
Other transport services, n.e.c.	1.8	1.6	1.8	6.4	6.2	1.9
Other economic services (a)	1.7	3.4	5.4	6.5	5.0	7.5
Other purposes	—	—	—	—	3.6	0.1
Total	648.4	901.7	1,122.9	1,154.5	1,271.1	1,389.1
Expenditure on existing assets and stocks (net)	9.7	37.2	36.5	23.5	30.0	3.5
Interest paid	128.2	145.1	177.3	215.1	253.3	288.9
Grants to State authorities	22.6	25.9	32.6	32.3	36.2	35.5
Net advances to the private sector	3.4	5.6	5.7	6.1	4.8	12.8
Total outlay	1,120.3	1,542.1	1,916.1	2,039.2	2,305.3	2,533.7
of which—						
current outlay	453.7	591.7	743.1	846.0	988.8	1,121.2
capital outlay	666.6	950.3	1,173.0	1,193.2	1,316.5	1,412.5

(a) Includes general administration, regulation and research.

RECEIPTS AND FINANCING ITEMS

Receipts—						
Taxes, fees, fines, etc.—						
Rates on land	559.4	705.2	883.4	1,033.7	1,123.4	1,218.1
Licences, etc.	24.5	25.7	32.0	38.7	43.3	48.7
Total	583.9	730.9	915.4	1,072.4	1,166.7	1,266.8
Income from public enterprises	98.6	93.0	128.3	173.3	170.7	168.8
Property income	24.9	42.3	41.8	55.6	81.4	93.1
Grants from State and Commonwealth authorities	161.7	331.8	452.0	424.5	490.9	529.9
Total receipts	869.1	1,197.9	1,537.5	1,725.8	1,909.7	2,058.7
Financing items—						
Net borrowing	144.8	214.5	287.3	332.0	310.5	344.1
Advances from State and Commonwealth authorities	6.0	17.9	18.6	16.0	9.3	12.8
Net receipts of private trust funds	5.8	—1.3	23	3.3	3.3	1.7
Reduction in cash and bank balances	—6.8	37.1	—48.7	—160.9	—52.2	—15.1
Reduction in security holdings—						
Investments of governmental funds and trading enterprises	—10.5	—0.2	—9.1	—12.6	—69.4	—57.9
Other funds available (including errors and omissions)—						
Depreciation allowances	34.6	41.5	46.7	52.8	58.5	73.3
Other	77.2	34.7	81.4	82.8	135.7	116.0
Total financing items	251.3	344.1	378.6	313.5	395.7	475.0
Total funds available	1,120.3	1,542.1	1,916.1	2,039.2	2,305.3	2,533.7

LOCAL AUTHORITIES: OUTLAY AND RECEIPTS, 1978-79

(\$ million)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Total
OUTLAY								
Final consumption expenditure—								
General public services	116.5	74.4	54.2	31.5	17.8	4.7	1.8	301.0
Education	1.0	11.4	—	0.2	0.2	—	—	12.7
Health	19.8	19.7	6.1	2.3	3.7	1.1	0.1	52.8
Social security and welfare	6.3	19.8	—	0.6	1.2	—	—	28.0
Housing and community amenities—								
Community and regional development	8.6	4.5	3.2	2.1	-1.2	—	0.3	17.5
Protection of the environment	23.1	31.0	8.7	7.6	4.4	2.8	0.2	77.7
Other	4.6	3.0	5.3	1.3	1.6	-0.5	0.2	15.4
Recreation and culture	72.5	62.9	30.9	22.5	23.2	6.6	1.1	219.7
Economic services	18.2	26.4	16.6	5.8	4.4	-0.1	-0.5	72.0
Other purposes	0.9	—	—	—	6.3	—	—	7.3
Total	271.8	253.2	125.1	73.7	61.6	14.5	4.2	804.0
Gross capital formation—								
Expenditure on new fixed assets								
General public services	39.6	93.8	19.8	9.4	7.7	3.2	0.7	174.2
Education	0.6	0.5	—	0.1	0.3	—	—	1.5
Health	0.8	1.1	0.6	—	0.8	—	—	3.3
Social security and welfare	5.2	0.4	0.1	0.5	0.8	—	0.5	7.6
Housing and community amenities—								
Community and regional development	3.0	—	1.5	—	6.7	—	0.4	11.6
Protection of the environment	43.4	3.1	66.0	8.5	3.3	6.0	—	130.3
Other	2.8	—	1.0	0.2	2.0	—	—	6.0
Recreation and culture	33.7	29.1	21.1	5.5	22.5	1.9	0.4	114.2
Economic services—								
Mining, manufacturing and construction	7.6	0.2	—	—	—	0.1	—	7.9
Electricity and gas	116.1	4.8	—	0.2	0.7	—	—	121.8
Water supply	45.0	3.0	36.8	—	—	3.3	—	88.0
Road systems and regulation	303.1	161.2	94.9	55.4	71.5	25.7	1.6	713.3
Other transport services, n.e.c.	0.6	—	1.0	—	0.3	—	—	1.9
Other economic services (a)	3.2	2.6	—	0.5	1.1	—	0.2	7.5
Other purposes	—	—	—	—	0.1	—	—	0.1
Total	604.6	299.7	242.8	80.2	117.8	40.3	3.7	1,389.1
Expenditure on existing assets and stocks (net)	6.2	19.6	-11.9	1.5	-11.3	—	-0.5	3.5
Interest paid	117.1	45.3	88.7	8.9	16.5	12.0	0.4	288.9
Grants to State authorities	14.0	9.0	5.5	2.1	2.3	2.6	—	35.5
Net advances to the private sector	12.8	—	—	—	—	—	—	12.8
Total outlay	1,026.4	626.7	450.1	166.4	187.0	69.3	7.8	2,533.7
of which—								
current outlay	401.7	304.5	219.3	84.0	78.1	29.1	4.6	1,121.2
capital outlay	624.8	322.2	230.8	82.4	108.8	40.3	3.2	1,412.5

(a) Includes general administration, regulation and research.

RECEIPTS AND FINANCING ITEMS

Receipts								
Taxes, fees, fines, etc. —								
Rates on land	473.0	350.7	170.1	95.3	89.8	34.7	4.5	1,218.1
Licences, etc.	12.5	17.8	9.4	4.4	3.1	1.1	0.1	48.7
Total	485.6	368.4	179.4	99.8	93.0	35.9	4.7	1,266.8
Income from public enterprises	88.0	9.5	63.6	—	0.9	6.9	—	168.8
Property income	56.6	11.3	13.1	4.3	7.6	—	0.2	93.1
Grants from State and Commonwealth authorities	173.9	139.5	105.6	34.1	51.9	18.5	6.5	529.9
Total receipts	804.1	528.8	361.7	138.1	153.4	61.2	11.3	2,058.7
Financing items—								
Net borrowing	148.1	63.8	80.9	16.1	20.5	13.3	1.3	344.1
Advances from State and Commonwealth authorities	0.2	2.9	7.6	-0.1	-2.2	4.4	—	12.8
Net receipts of private trust funds	—	—	1.7	—	—	—	—	1.7
Reduction in cash and bank balances	-7.3	-6.5	-12.9	4.7	2.9	-6.0	-4.6	-15.1
Reduction in security holdings—								
Investments of governmental funds and trading enterprises	-47.1	-11.8	—	—	—	1.1	—	-57.9
Other funds available (including errors and omissions)—								
Depreciation allowances	73.3	—	—	—	—	—	—	73.3
Other	40.6	49.5	11.1	7.5	12.3	-4.7	-0.3	116.0
Total financing items	222.4	97.9	88.4	28.2	33.5	8.2	-3.5	475.0
Total funds available	1,026.4	626.7	450.1	166.4	187.0	69.3	7.8	2,533.7

ALL PUBLIC AUTHORITIES

In the following tables the transactions of the Commonwealth Government, State and local authorities have been brought together and consolidated to provide details of the receipts and outlay of the public authority sector as a whole.

Summary of receipts and outlay

The receipts and outlay of all public authorities for the six year period ended 1978-79 are set out in the following table.

ALL PUBLIC AUTHORITIES(a): RECEIPTS AND OUTLAY

(\$ million)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
OUTLAY						
Final consumption expenditure	6,687.4	9,219.5	11,521.6	13,489.3	15,252.4	16,773.0
Gross capital formation—						
Increase in stocks	56.7	383.2	-35.5	-18.9	-47.6	-162.9
Expenditure on new fixed assets	3,928.0	5,564.2	6,608.0	7,011.1	7,801.6	8,085.4
Expenditure on existing assets (net)	205.9	373.1	220.0	174.8	116.3	-0.5
<i>Total gross capital formation</i>	<i>4,190.8</i>	<i>6,320.7</i>	<i>6,792.5</i>	<i>7,167.0</i>	<i>7,870.3</i>	<i>7,922.0</i>
Transfer payments—						
Interest	1,087.8	1,312.1	1,494.2	2,056.1	2,505.1	2,992.4
Transfers to persons	3,309.2	4,595.7	6,417.0	7,758.7	8,700.7	9,552.3
Subsidies	332.5	326.3	319.1	346.2	468.3	614.1
Transfers overseas	288.0	349.2	370.1	387.8	417.3	474.7
Grants for private capital purposes	100.0	175.4	233.0	158.5	191.8	204.4
<i>Total transfer payments</i>	<i>5,117.5</i>	<i>6,758.7</i>	<i>8,833.4</i>	<i>10,707.3</i>	<i>12,283.2</i>	<i>13,838.0</i>
Net advances—						
To the private sector	112.2	278.2	295.4	255.2	279.4	133.7
To public financial enterprises	81.5	268.0	63.6	90.8	98.5	77.1
To overseas	32.2	35.0	78.8	43.0	-2.3	22.8
<i>Total net advances</i>	<i>225.8</i>	<i>581.2</i>	<i>437.8</i>	<i>389.0</i>	<i>375.6</i>	<i>233.5</i>
Total outlay	16,221.5	22,880.1	27,585.2	31,752.7	35,781.6	38,766.6
of which—						
current outlay	11,704.7	15,802.8	20,121.9	24,038.2	27,342.1	30,404.5
capital outlay	4,516.8	7,077.3	7,463.3	7,714.5	8,439.5	8,362.1
RECEIPTS AND FINANCING ITEMS						
Receipts—						
Taxes, fees, fines, etc.	13,707.2	17,734.4	21,322.6	24,851.9	26,967.8	29,468.0
Income from public enterprises	679.3	545.5	892.5	1,183.5	1,370.6	1,628.2
Interest, etc., received	431.0	556.1	604.5	803.4	991.7	1,028.1
<i>Total receipts</i>	<i>14,817.4</i>	<i>18,836.0</i>	<i>22,819.6</i>	<i>26,838.8</i>	<i>29,330.0</i>	<i>32,124.3</i>
Financing items—						
Net borrowing—						
Treasury notes	-37.8	1,689.1	-769.6	363.2	193.5	1,546.8
Commonwealth Government securities	801.2	554.1	3,165.5	2,097.5	2,979.2	2,469.6
Local authority and public corporation securities	505.0	650.2	866.3	1,437.6	1,528.7	1,743.1
Other general Government securities	63.0	75.3	112.4	129.7	118.6	204.5
<i>Total net borrowing</i>	<i>1,331.4</i>	<i>2,968.8</i>	<i>3,374.6</i>	<i>4,027.9</i>	<i>4,819.6</i>	<i>5,964.0</i>
Funds provided for, or received from I.M.F.	-	-	-	-	-	27.9
Net receipts of private trust funds	20.3	232.7	251.7	307.8	385.8	399.6
Reduction in cash and bank balances	-788.9	583.7	-528.2	-865.2	126.1	-724.5
Reduction in security holdings	-172.7	-557.9	566.8	34.2	-520.0	-607.3
Other funds available (including errors and omissions)—						
Depreciation allowances	581.3	590.5	765.4	852.3	972.0	1,093.6
Other	432.7	226.3	335.3	556.9	668.1	488.9
<i>Total financing items</i>	<i>1,404.1</i>	<i>4,044.1</i>	<i>4,765.6</i>	<i>4,913.9</i>	<i>6,451.6</i>	<i>6,642.3</i>
Total funds available	16,221.5	22,880.1	27,585.2	31,752.7	35,781.6	38,766.6

(a) Excludes financial enterprises.

ALL PUBLIC AUTHORITIES, 1978-79

Receipts and Financing Items

Outlay

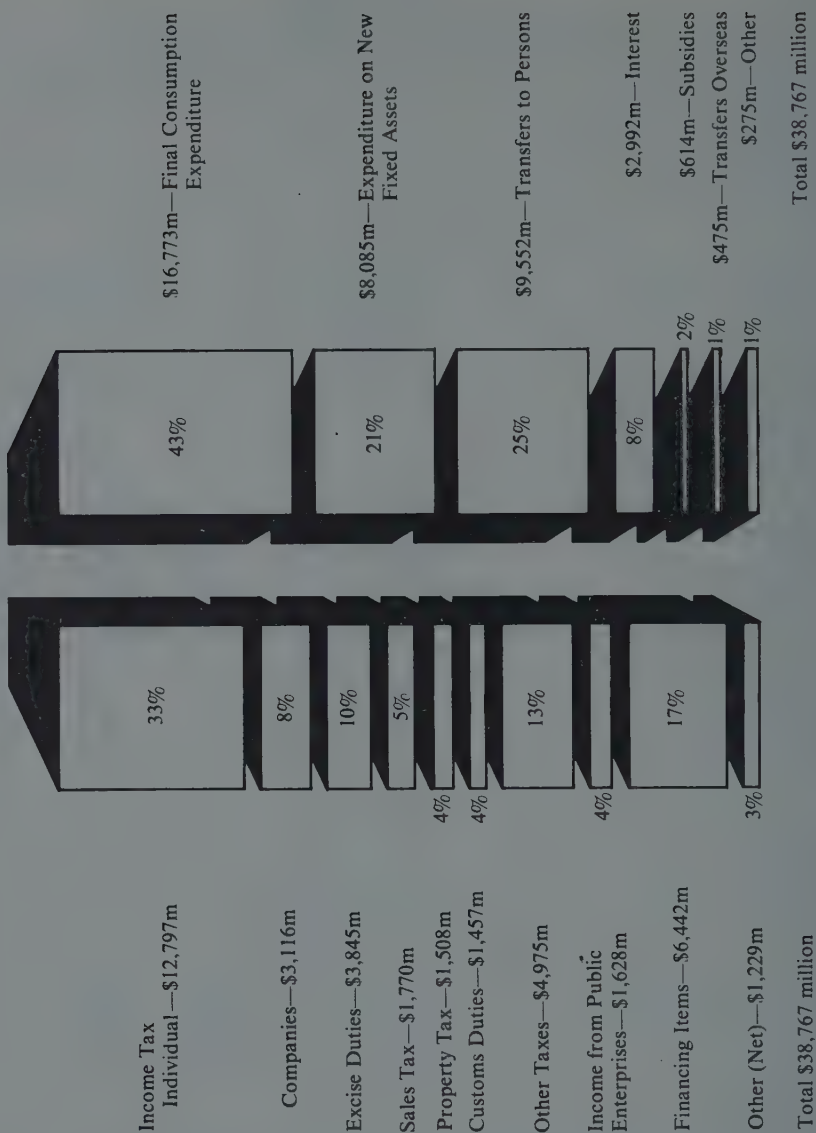


PLATE 45

Main components of outlay

The following tables show final consumption expenditure and expenditure on new fixed assets of all public authorities classified by purpose for the years 1973-74 to 1978-79.

ALL PUBLIC AUTHORITIES: FINAL CONSUMPTION EXPENDITURE CLASSIFIED BY PURPOSE

	(\$ million)					
	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
General public services—						
General administration, n.e.c.	783.0	1,044.4	1,272.6	1,465.4	1,701.2	1,829.5
External affairs	58.3	83.8	91.7	98.2	105.8	116.4
Law, order and public safety	442.4	617.9	761.2	887.9	1,026.0	1,150.6
General research	90.5	111.8	130.5	152.0	170.1	182.6
Defence	1,222.5	1,444.2	1,679.9	1,998.6	2,184.5	2,401.3
Education	1,908.8	2,765.6	3,427.1	4,117.2	4,656.1	5,064.0
Health	1,028.9	1,544.9	2,294.3	2,720.6	3,038.0	3,323.2
Social security and welfare	168.5	253.4	326.0	362.4	432.4	499.4
Housing and community amenities—						
Housing	6.7	11.5	14.3	7.1	5.9	9.2
Community and regional development	34.9	55.6	71.3	73.5	73.2	79.4
Protection of the environment	45.2	66.6	78.5	88.9	94.4	110.8
Community amenities	5.0	7.0	9.2	10.1	11.5	13.2
Recreation and culture	254.8	354.1	441.5	477.7	544.9	614.4
Economic services—						
Agriculture, forestry, fishing	265.6	330.4	385.4	425.6	478.8	516.6
Mining, manufacturing and construction	47.5	61.2	69.5	78.6	93.8	102.1
Electricity, gas and water supply	0.9	4.4	7.6	6.1	7.6	10.9
Transport and communication	109.6	130.9	142.2	153.2	156.0	189.1
Other economic services(a)	212.0	285.9	310.2	362.3	466.1	551.3
Other purposes	2.0	45.7	8.5	4.0	8.1	9.2
Total	6,687.4	9,219.5	11,521.6	13,489.3	15,252.4	16,773.0

(a) Includes general administration, regulation and research.

ALL PUBLIC AUTHORITIES(a): EXPENDITURE ON NEW FIXED ASSETS CLASSIFIED BY PURPOSE

	(\$ million)					
	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
General public services—						
General administration	134.5	207.4	245.4	252.6	318.4	332.1
External affairs	12.3	15.9	20.3	25.5	24.4	11.1
Law, order and public safety	42.7	54.6	74.6	85.1	107.7	123.4
General research	15.1	20.6	32.1	23.6	18.0	29.6
Education	381.8	656.2	694.7	640.6	715.6	729.8
Health	146.7	245.4	387.0	394.7	378.4	372.3
Social security and welfare	21.3	20.8	27.4	27.2	22.6	25.1
Housing and community amenities—						
Housing	118.0	296.2	350.4	327.8	331.6	284.3
Community and regional development	39.2	62.6	96.0	96.3	90.4	62.9
Protection of the environment	305.7	420.1	484.0	500.9	495.2	479.8
Community amenities	0.5	1.3	3.6	3.4	3.5	2.0
Recreation and culture	78.4	104.9	143.4	138.7	167.1	201.6
Economic services—						
Agriculture, forestry and fishing	118.4	159.9	186.1	214.5	238.3	225.9
Mining, manufacturing and construction	47.4	71.2	86.1	77.2	81.7	84.4
Electricity and gas	440.1	552.6	671.9	803.7	984.2	1,230.5
Water supply	198.1	248.7	309.7	347.1	374.4	369.0
Rail transport(b)	147.0	231.4	322.5	348.8	426.8	485.8
Sea transport	74.9	133.1	133.0	233.0	256.6	186.4
Road systems and regulation	857.8	1,102.1	1,322.1	1,409.4	1,534.1	1,657.1
Air transport	85.2	96.2	87.5	52.9	162.1	150.9
Pipelines	56.3	58.4	57.4	22.2	8.6	11.9
Other transport services, n.e.c.	10.6	21.9	34.1	34.4	46.2	47.6
Communications	559.1	717.9	756.6	855.4	913.6	904.0
Other economic services(c)	35.0	58.5	76.8	95.4	96.8	76.4
Other purposes	1.8	6.2	5.2	0.5	4.4	1.5
Total	3,928.0	5,564.2	6,608.0	7,011.1	7,801.6	8,085.4

(a) Excludes financial enterprises.

(b) Includes suburban rail transport system.

(c) Includes general administration, regulation and research.

Main components of receipts

Taxes and net borrowing constitute the main sources of financing of the activities of the public authorities. Details of the debt of public authorities are given in the next section of this chapter. Taxation, by type of tax, for the years 1973-74 to 1978-79 was as follows.

ALL PUBLIC AUTHORITIES: TAXATION, BY TYPE OF TAX
(\$ million)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Income tax—						
Individuals	5,485	7,709	9,213	11,047	12,122	12,797
Companies (a)	2,013	2,432	2,600	2,899	3,190	3,116
Estate, gift, probate and succession duties	261	278	314	339	344	289
Customs duties	604	840	1,044	1,273	1,232	1,457
Excise duties	1,555	1,729	2,331	2,485	2,734	3,844
Sales tax	969	1,154	1,408	1,650	1,758	1,770
Primary production taxes	64	143	115	189	179	283
Payroll tax	674	1,012	1,179	1,325	1,439	1,541
Property taxes	703	898	1,113	1,285	1,394	1,508
Liquor taxes	59	77	98	123	143	158
Taxes on gambling	207	280	340	395	434	480
Taxes on ownership and operation of motor vehicles	380	452	550	653	728	796
Stamp duties, n.e.i.	436	393	555	672	708	806
Other taxes, fees, fines, etc.	297	338	462	517	562	623
Total	13,707	17,734	21,323	24,852	26,968	29,468

(a) Includes dividend and interest (withholding) taxes. Excludes income taxes paid by Commonwealth Government public enterprises.

Level of government

In the following tables details are given for 1978-79 of the receipts and outlay of all public authorities, broken down by level of government in order to show their relative contributions to various expenditure programs, and their roles in financing these programs through taxes and transfers.

ALL PUBLIC AUTHORITIES(a): RECEIPTS AND OUTLAY BY LEVEL OF GOVERNMENT, 1978-79
(\$ million)

	<i>Commonwealth authorities</i>	<i>State authorities</i>	<i>Local authorities</i>	<i>All public authorities</i>
OUTLAY				
Expenditure on goods and services—				
General public services—				
General administration, n.e.c.	909.0	786.4	475.2	2,170.6
External affairs	127.5	—	—	127.5
Law, order and public safety	171.7	1,093.3	—	1,265.0
General research	212.2	—	—	212.2
Defence	2,401.3	—	—	2,401.3
Education	337.5	5,442.1	14.2	5,793.8
Health	545.0	3,094.4	56.1	3,695.5
Social security and welfare	297.8	191.1	35.6	524.5
Housing and community amenities—				
Housing	-2.3	288.9	6.9	293.5
Community and regional development	42.4	70.8	29.1	142.3
Protection of the environment	14.0	368.6	208.0	590.6
Community amenities	0.5	0.2	14.5	15.2
Recreation and culture	273.7	208.3	333.9	815.9
Economic services—				
Agriculture, forestry and fishing	149.6	587.1	5.4	742.1
Mining, manufacturing and construction	48.6	117.7	20.2	186.5
Electricity, gas and water supply	17.9	1,382.7	209.8	1,610.4
Transport and communication	1,295.9	1,579.4	757.6	3,632.9
Other economic services	394.2	214.5	19.4	628.1
Other purposes	—	3.3	7.4	10.7
Total expenditure on goods and services	7,236.5	15,428.9	2,193.1	24,858.5
of which—				
Final consumption expenditure	5,739.9	10,229.1	804.0	16,773.0
Expenditure on new fixed assets	1,496.6	5,199.8	1,389.1	8,085.4
Increase in stocks	-205.7	35.5	7.2	-162.9
Expenditure on existing assets (net)	-79.0	82.3	-3.7	-0.5
Transfer payments—				
Interest	783.5	1,920.0	288.9	2,992.4
Transfers to persons	9,266.9	285.4	—	9,552.3
Subsidies	513.2	100.9	—	614.1
Transfers overseas	474.6	0.1	—	474.7
Grants for private capital purposes	131.8	72.6	—	204.4
Grants to the States—for current purposes	7,848.1	—	—	(b)
—for capital purposes	1,483.6	—	—	(b)
Grants to the Northern Territory				
—for current purposes	289.7	—	—	(b)
—for capital purposes	0.1	—	—	(b)
Grants to local authorities	17.4	512.6	—	(b)
Grants from local authorities	—	—	35.5	(b)
Total transfer payments	20,808.9	2,891.6	324.4	13,838.0
Net advances to—				
The private sector	10.2	110.7	12.8	133.7
Public financial enterprises	-10.2	87.3	—	77.1
The States	1,129.2	—	—	(b)
The Northern Territory	-1.8	—	—	(b)
Local authorities	—	12.8	—	(b)
Overseas	22.8	—	—	22.8
Total net advances	1,150.1	210.8	12.8	233.5
Total outlay	28,910.8	18,649.1	2,533.7	38,766.6
of which—				
current outlay	24,925.5	12,805.1	1,121.2	30,404.5
capital outlay	3,985.3	5,844.0	1,412.5	8,362.1

(a) Excludes financial enterprises. (b) In consolidated figures for all public authorities, inter-authority grants and advances are not shown.

**ALL PUBLIC AUTHORITIES(a): RECEIPTS AND OUTLAY
BY LEVEL OF GOVERNMENT, 1978-79—continued**

(\$ million)

	<i>Commonwealth authorities</i>	<i>State authorities</i>	<i>Local authorities</i>	<i>All public authorities</i>
RECEIPTS AND FINANCING ITEMS				
Receipts—				
Taxes, fees, fines, etc.—				
Income tax—				
Individuals	12,797.2	—	—	12,797.2
Companies(b)	3,116.2	—	—	3,116.2
Estate, gift, probate and succession duties	83.5	205.4	—	288.9
Customs duties	1,456.5	—	—	1,456.5
Excise duties	3,844.7	—	—	3,844.7
Sales tax	1,769.8	—	—	1,769.8
Payroll tax	13.1	1,526.6	—	1,539.6
Primary production taxes and charges	283.1	—	—	283.1
Property taxes	15.0	277.2	1,218.1	1,510.3
Liquor taxes	2.4	155.2	—	157.6
Taxes on gambling	—	479.7	—	479.7
Taxes on ownership and operation of motor vehicles	7.8	787.7	0.1	795.6
Stamp duties, n.e.i.	5.6	800.2	—	805.8
Fees from regulatory services	22.7	54.7	35.3	114.0
Other taxes, fees, fines, etc.	116.1	380.8	13.2	508.9
<i>Total taxes, etc.</i>	<i>23,533.7</i>	<i>4,667.5</i>	<i>1,266.8</i>	<i>29,468.0</i>
Income from public enterprises	1,007.1	452.3	168.8	1,628.2
Interest, etc., received	182.1	752.9	93.1	1,028.1
Grants from the Commonwealth Government—				
For current purposes	—	8,137.9	—	(c)
For capital purposes	—	1,483.8	—	(c)
Direct grants from Commonwealth Government to local authorities	—	—	17.3	(c)
Grants from State authorities	—	—	512.6	(c)
Grants from local authorities	—	35.5	—	(c)
<i>Total receipts</i>	<i>24,722.9</i>	<i>15,529.9</i>	<i>2,058.7</i>	<i>32,124.3</i>
Financing items—				
Net borrowing—				
Treasury bills and notes	1,546.8	—	—	1,546.8
Commonwealth government securities	2,469.6	—	—	2,469.6
Local authorities and public corporation securities	193.2	1,205.8	344.1	1,743.1
Other general government securities	—	204.5	—	204.5
<i>Total net borrowing</i>	<i>4,209.6</i>	<i>1,410.3</i>	<i>344.1</i>	<i>5,964.0</i>
Advances from the Commonwealth Government—				
For loan works purposes	—	770.6	—	(c)
Other	—	356.6	—	(c)
Advances from State authorities	—	—	12.8	(c)
Funds provided for or received from I.M.F.	27.9	—	—	27.9
Net receipts of private trust funds	155.1	242.8	1.7	399.6
Reduction in cash and bank balances	-474.2	-235.2	-15.1	-724.5
Reduction in security holdings	-349.3	-200.1	-57.9	-607.3
Other funds available (including errors and omissions)—				
Depreciation allowances	550.4	469.9	73.3	1,093.6
Other	68.3	304.4	116.1	488.9
<i>Total financing items</i>	<i>4,187.9</i>	<i>3,119.2</i>	<i>475.0</i>	<i>6,642.3</i>
<i>Total funds available</i>	<i>28,910.8</i>	<i>18,649.1</i>	<i>2,533.7</i>	<i>38,766.6</i>

(a) Excludes financial enterprises. (b) Includes dividend and interest (withholding) taxes. Excludes income taxes paid by Commonwealth Government public enterprises. (c) In consolidated figures for all public authorities, inter-authority grants and advances are not shown.

PUBLIC SECTOR BORROWING

Figures given in this section do not purport to show either 'public debt' or 'net public debt', but are designed to provide details of securities issued on behalf of the Commonwealth Government and the States, together with some details of the amounts borrowed by State and local authorities with independent borrowing powers.

For a number of reasons, this information cannot be aggregated, without adjustment, to provide a measure of the 'debt' of public authorities. There are forms of debt not evidenced by the issue of securities, such as Commonwealth Government advances to the States for specific capital purposes. Governments themselves maintain significant holdings of their own securities; for example, the Commonwealth Government, in the National Debt Sinking Fund, the Loan Consolidation and Investment Reserve, and in other Trust Funds, holds large investments in securities issued either directly by itself or on behalf of the States. Some of the securities issued on behalf of the States and held by the Commonwealth Government represent the proceeds of overseas loans, securities for which were issued directly by the Commonwealth Government, the Australian currency counterpart proceeds of the loans being invested in special loans to finance State works programs. A number of State public corporations and local authorities also maintain significant investments in government securities (including their own securities). Aggregation of the figures for securities on issue which follow would clearly involve a substantial degree of duplication; the sum of securities on issue therefore cannot be regarded as representing 'net public debt'.

Commonwealth Government and States: Government securities on issue

Under the 1927 Financial Agreement between the Commonwealth Government and the States, the Commonwealth Government accepted responsibility for the securities of State governments then on issue and was empowered to arrange for all future borrowings on behalf of the Commonwealth and the States and to issue Commonwealth Government securities for all moneys borrowed.

A National Debt Sinking Fund, which is administered by the National Debt Commission, was established by the *National Debt Sinking Fund Act* 1923 for the redemption of securities issued on behalf of the Commonwealth Government. Under the terms of the Financial Agreement, the sinking funds existing in respect of the States' debts were also placed under the control of the Commission. The Commonwealth Government is reimbursed by the States for interest, exchange, etc. paid on their behalf, and the securities are redeemed from the Fund to which both the Commonwealth and the State governments make pre-determined contributions. The amounts to be contributed were varied when the *National Debt Sinking Fund Act* 1966 repealed all previous legislation on sinking funds relating to securities on issue on behalf of the Commonwealth Government, and again in 1976 when the Act was amended to reflect the amendments to the Financial Agreement. In 1976 the Commonwealth assumed the responsibility for over \$1,000 million of States' debt existing as at 30 June 1975. As a consequence, the separate States' Sinking Funds were absorbed into the National Debt Sinking Fund, with separate accounts being maintained for the Commonwealth and each State.

For further information relating to the recent operations of the National Debt Sinking Fund reference should be made to the fifty-seventh annual report of the National Debt Commission. Particulars of the creation and operation of sinking funds by the *National Debt Sinking Fund Act* 1923 are included in issues of the Year Book prior to No. 23, and a general description of the provisions applying between 1966 and 1976 is given in issue No. 61.

In the tables which follow, details are given of transactions in Commonwealth Government securities issued on account of the Commonwealth Government and the States. Amounts relating to overseas loans are shown in Australian currency equivalent calculated on the basis of the rates of exchange ruling at 30 June in each year shown. All amounts shown are at face value.

For figures which permit accurate analysis of the structure and movement of securities issued on behalf of the Commonwealth and States, refer to the Commonwealth Budget Paper No. 6, *Government Securities on Issue*.

Net movement in securities on issue

Summary details of the net movement in securities issued for Commonwealth Government purposes and on account of the States during the period 1974-75 to 1979-80, are given in the following group of tables.

NET MOVEMENT IN GOVERNMENT SECURITIES ON ISSUE

(\$ million)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
NEW SECURITIES ISSUED						
Securities repayable in Australian currency—						
Treasury bonds	1,054.9	2,176.6	1,581.0	965.7	1,018.5	1,485.7
Australian savings bonds	—	1,202.3	736.3	719.6	531.2	806.1
Special bonds	343.0	160.1	—	—	—	—
Income equalization deposits	—	—	—	—	33.1	73.5
Drought bonds	1.5	0.2	0.2	—	—	—
Advance loan subscriptions	(a)-14.3	22.6	(a)-21.7	(a)0.4	(a)-4.6	—
Overdue securities	—	—	—	—	—	—
Tax-free stock	—	—	—	—	—	—
Debentures	—	—	—	—	—	—
Stock issued to Government savings banks under special agreements(b)	21.1	5.9	35.4	57.9	35.8	36.5
Treasury notes	(a)1,689.1	2,667.1	4,105.7	1,766.7	4,245.1	7,870.4
Treasury bills—						
Internal	(a)79.4	(a)157.0	(a)323.8	(a)365.2	(a)-187.7	141.8
Public	—	(a)850.0	(a)450.0	(a)200.0	(a)500.0	500.0
Total	3,174.8	7,241.9	7,210.8	4,075.5	6,171.3	10,913.9
Securities repayable in overseas currencies(c)	235.1	268.1	424.2	1,738.3	1,453.8	482.1
Total new securities issued	3,409.9	7,510.0	7,634.9	5,813.9	7,625.1	11,396.0

REDEMPTIONS, REPURCHASES, CANCELLATIONS(d)

Securities repayable in Australian currency—						
Treasury bonds	478.2	286.7	243.0	114.6	222.6	1,035.6
Australian savings bonds	—	13.1	176.7	174.8	164.4	586.2
Special bonds	374.8	216.9	180.3	133.3	72.7	44.6
Income equalization deposits	—	—	—	—	20.4	16.4
Drought bonds	0.9	0.9	2.8	0.6	0.2	0.2
Advance loan subscriptions	—	—	—	—	—	—
Overdue securities	0.2	0.6	-2.2	0.8	1.8	0.6
Tax-free stock	0.1	0.2	—	0.1	0.3	—
Debentures	3.2	3.4	3.5	3.7	3.8	4.0
Stock issued to Government savings banks under special agreements(b)	4.4	8.1	7.2	6.6	9.6	6.3
Treasury notes	—	4,286.7	4,192.5	1,773.3	3,198.3	7,665.2
Treasury bills—						
Internal	—	—	—	—	—	—
Public	—	—	—	—	—	—
Total	861.8	4,816.6	4,803.8	2,207.8	3,694.2	9,359.1
Securities repayable in overseas currencies(c)	84.4	125.6	-121.1	-26.3	-165.7	340.4
Total redemptions, etc.	946.2	4,942.2	4,682.8	2,181.4	3,528.5	9,699.5

NET MOVEMENT

Securities repayable in Australian currency—						
Treasury bonds	576.7	1,889.9	1,338.1	851.1	795.9	450.1
Australian savings bonds	—	1,189.2	559.6	544.8	366.8	219.9
Special bonds	-31.7	-56.7	-180.3	-133.3	-72.7	-44.6
Income equalization deposit	—	—	—	—	12.7	57.1
Drought bonds	0.6	-0.7	-2.6	-0.6	-0.2	-0.2
Advance loan subscriptions	-14.3	22.6	-21.7	0.4	-4.6	—
Overdue securities	-0.2	-0.6	2.2	-0.8	-1.8	-0.6
Tax-free stock	—	-0.2	—	-0.1	-0.3	—
Debentures	-3.2	-3.4	-3.5	-3.7	-3.8	-4.0
Stock issued to Government savings banks under special agreements(b)	16.7	-2.2	28.2	51.3	26.2	30.2
Treasury notes	1,689.1	-1,619.6	-86.8	-6.5	1,046.8	205.2
Treasury bills—						
Internal	79.4	157.0	323.8	365.2	-187.7	141.8
Public	—	850.0	450.0	200.0	500.0	500.0
Total	2,313.0	2,425.4	2,406.9	1,867.8	2,477.2	1,554.8
Securities repayable in overseas currencies(c)	150.7	142.6	545.2	1,764.7	1,619.5	141.7
Net movement in securities on issue	2,463.7	2,568.0	2,952.1	3,632.4	4,096.7	1,696.5

(a) Net issue. (b) Recorded in Commonwealth Government Loan Fund as State domestic raisings. (c) Australian currency equivalent at rates of exchange ruling at 30 June in each of the years shown. (d) Includes conversions from one type of security to another, which affect the net movements of individual loan categories, but do not affect the overall net movement.

NOTE: For securities repayable in overseas currencies the amounts shown also include an element due to exchange rate variations in Securities on Issue.

Government securities on issue.

The following table provides details of government securities on issue on account of the Commonwealth Government and the States, repayable in Australian and in overseas currencies.

GOVERNMENT SECURITIES ON ISSUE: COMMONWEALTH GOVERNMENT AND STATES
(\$ million)

	30 June—					
	1975	1976	1977	1978	1979	1980
For Commonwealth Government purposes—						
Repayable in Australian currency—						
Treasury bonds	1,613.1	3,947.5	4,494.7	4,949.3	5,269.8	5,523.6
Australian savings bonds	—	1,178.4	1,637.3	1,669.3	1,700.5	1,496.0
Special bonds	246.5	196.1	145.5	110.3	93.8	75.9
Income equalization deposit	—	—	—	—	79.4	136.4
Drought bonds	4.6	3.9	1.3	0.8	0.5	0.4
Advance loan subscriptions	3.3	25.9	4.2	4.6	—	—
Overdue securities	4.2	3.7	4.6	5.3	3.5	3.0
Treasury notes	2,076.0	456.5	369.6	363.1	1,409.9	1,615.2
Treasury bills—						
Internal	1,010.2	1,167.2	1,491.0	1,856.2	1,668.5	1,810.3
Public	—	850.0	1,300.0	1,500.0	2,000.0	2,500.0
<i>Total</i>	4,957.9	7,829.2	9,448.4	10,458.9	12,225.9	13,160.8
Repayable in overseas currencies(a)	998.2	1,181.1	1,743.4	3,533.1	5,178.9	5,326.4
<i>Total Commonwealth Government</i>	5,956.2	9,010.3	11,191.8	13,991.9	17,404.8	18,487.2
On account of States—						
Repayable in Australian currency—						
Treasury bonds	10,442.4	9,997.9	10,788.7	11,185.3	11,660.6	11,856.8
Australian savings bonds	—	10.8	111.5	624.3	959.8	1,384.2
Special bonds	719.1	712.7	583.0	484.9	428.7	402.0
Tax-free stock	15.3	15.1	15.1	15.0	14.8	14.7
Stock issued to Government savings banks under special agreements	422.0	419.8	448.0	499.3	525.5	555.7
Debentures	30.3	27.0	23.4	19.8	15.9	11.9
Overdue securities	0.4	0.3	1.6	0.1	0.1	—
<i>Total</i>	11,629.5	11,183.6	11,971.4	12,828.6	13,605.4	14,225.4
Repayable in overseas currencies(a)	184.2	143.9	127.2	102.2	75.9	70.0
<i>Total States</i>	11,813.8	11,327.6	12,098.5	12,930.8	13,681.3	14,295.3
of which—						
New South Wales	3,834.1	3,721.0	3,959.1	4,222.6	4,466.3	4,666.8
Victoria	2,896.2	2,834.0	3,031.8	3,244.3	3,427.6	3,584.9
Queensland	1,576.7	1,538.7	1,644.0	1,753.9	1,856.0	1,931.8
South Australia	1,551.3	1,389.5	1,491.9	1,602.7	1,701.5	1,781.1
Western Australia	1,121.6	1,090.5	1,160.8	1,237.3	1,307.3	1,360.7
Tasmania	833.9	753.8	811.0	870.0	922.6	969.9
<i>Total Commonwealth Government and States</i>	17,769.9	20,337.9	23,290.3	26,922.7	31,086.0	32,782.6

(a) Australian currency equivalent.

State and local authorities' borrowings

The borrowings of Commonwealth, State and local authorities come within the purview of the Loan Council under a 'gentlemen's agreement' originating in 1936. The Loan Council determines maximum interest rates and other terms and conditions of loans raised by authorities and approves the aggregate annual borrowing program for authorities borrowing more than \$1.2 million in the financial year. The total program approved is distributed by the Council between the States, and each State determines the distribution between individual authorities of its share of the overall borrowing program approved for such authorities. Authorities which individually borrow less than \$1.2 million in the financial year are also subject to the terms and conditions applying under the 'gentlemen's agreement', and it is the responsibility of the States to ensure that these authorities conform with these terms and conditions. No aggregate annual limit on their borrowings is imposed by the Loan Council.

The following table shows the aggregate borrowings by the State and local authorities in each of the years 1974–75 to 1979–80. It will be seen that the amounts borrowed by local authorities vary between the States, reflecting a number of factors including, importantly, variations between the States in the range of services provided by local government authorities. For example, the high figures for Queensland reflect, in part, borrowings by the Brisbane City Council which carries out a number of functions (e.g. metropolitan bus services and sewerage services) which in other States are undertaken by State authorities.

For further information relating to the figures given in the table, reference should be made to the Commonwealth Budget Paper No. 7, *Payments to or for the States, the Northern Territory and Local Government Authorities*.

NEW MONEY BORROWINGS BY STATE AND LOCAL AUTHORITIES
(**\$'000**)

	<i>New South Wales</i>	<i>Victoria</i>	<i>Queens- land</i>	<i>South Australia</i>	<i>Western Australia</i>	<i>Tasmania</i>	<i>Total</i>
STATE AUTHORITIES(a)							
1974-75	164,885	207,532	75,545	29,968	41,969	13,646	533,545
1975-76	205,312	256,930	102,411	39,490	44,309	17,720	666,172
1976-77	253,883	326,717	127,517	50,100	54,019	21,432	833,668
1977-78	332,215	388,620	198,721	73,220	78,689	30,771	1,102,236
1978-79	371,800	412,756	194,726	83,953	111,081	34,139	1,208,455
1979-80	472,761	382,657	235,264	56,830	108,692	34,445	1,290,649
LOCAL AUTHORITIES(b)							
1974-75	132,803	50,188	102,804	13,617	21,839	10,710	331,962
1975-76	163,847	63,043	102,097	16,831	27,845	14,503	388,166
1976-77	191,932	65,893	116,118	21,674	32,380	17,053	445,050
1977-78	202,230	84,493	117,993	19,424	36,481	17,405	478,026
1978-79	215,641	81,795	126,709	24,621	39,286	17,841	505,893
1979-80	235,407	123,618	147,948	26,604	40,336	15,426	589,339

(a) New money borrowings by State-type authorities in the Northern Territory in 1979-80 were \$31,788,000. (b) New money borrowings by local authorities in the Northern Territory are not included in the table. These borrowings are as follows: 1974-75, \$516,000; 1975-76, \$597,000; 1976-77, \$1,194,000; 1977-78, \$1,697,000; 1978-79, \$631,000; 1979-80, \$1,240,000.

Further references

For further detailed information on the subjects covered by this chapter see the annual bulletins published by the ABS: *Australian National Accounts—National Income and Expenditure* (5204.0); *Commonwealth Government Finance* (5502.0); *State and Local Government Finance, Australia* (5504.0); *Taxation Revenue, Australia* (5506.0) and *Government Financial Estimates, Australia* (5501.0). Current information in summarised form is given in *Quarterly Estimates of National Income and Expenditure, Australia* (5206.0), and is also contained in the *Monthly Summary of Statistics, Australia* (1304.0), and the monthly *Digest of Current Economic Statistics, Australia* (1305.0).

Additional details of the transactions of public authorities engaged in particular fields of activity, such as defence, transport and communication, health and welfare, education, etc., may be found in other chapters of this Year Book.

CHAPTER 23

NATIONAL ACCOUNTS

National accounting aims at providing a systematic summary of the transactions taking place in the economy, especially those that relate to the production and use of goods and services, and to transfers of income or capital between sectors of the economy.

Estimates of national income and expenditure have been compiled by the ABS since 1944-45 and have been published annually as papers entitled *National Income and Expenditure* accompanying the Commonwealth Budgets.

NATIONAL INCOME AND EXPENDITURE

Description of National Income and Expenditure Accounts

A brief description of the conceptual basis of national accounts is given in this section, but for a more detailed treatment of the concepts and structure of the Australian national accounts reference should be made to *Australian National Accounts, Concepts, Sources and Methods* (5216.0).

Definition and relationship of the concepts of product, income and expenditure

The main concepts of product, income and expenditure in the Australian National Accounts are defined and expressed in equivalents as follows:

Gross domestic product is the total market value of goods and services produced in Australia within a given period after deduction of the cost of goods and services used up in the process of production but before deducting allowances for the consumption of fixed capital. Thus, gross domestic product, as here defined, is 'at market prices'. It is equivalent to gross national expenditure plus exports of goods and services less imports of goods and services. *Gross farm product* is that part of gross domestic product which derives from production in agriculture and services to agriculture. *Gross non-farm product* arises from production in all other industries.

Gross domestic product at factor cost is that part of the cost of producing the gross domestic product which consists of gross payments to factors of production (labour, land, capital and enterprise). It represents the value added by these factors in the process of production and is equivalent to gross domestic product less net indirect taxes.

Domestic factor incomes is that part of the value added within a given period by factors of production (labour, land, capital and enterprise) which accrues as income to their suppliers after allowing for the depreciation of fixed capital. It is equivalent to gross domestic product at factor cost less depreciation allowances.

National income is the net income accruing within a given period to Australian residents from their services in supplying factors of production (labour, land, capital and enterprise) in Australia or overseas plus indirect taxes less subsidies. It is equivalent to domestic factor incomes plus indirect taxes less subsidies and net income paid overseas.

National disposable income is the net income accruing within a given period to Australian residents from their services in supplying factors of production, from net indirect taxes and from net transfers from overseas. It is equivalent to national income less net transfers overseas plus net withholding taxes received from overseas.

Gross national expenditure is the total expenditure within a given period on final goods and services (i.e. excluding goods and services used up during the period in the process of production) bought by Australian residents. It is equivalent to the gross domestic product plus imports of goods and services less exports of goods and services.

Household income is the total income, whether in cash or kind, received by persons normally resident in Australia in return for productive activity (such as wages, salaries and supplements, incomes of unincorporated enterprises, etc.) and transfer incomes (such as cash social service benefits, interest, etc.). It includes the imputed interest of life offices and superannuation funds, which is the benefit accruing to policy holders and members from investment income of the funds. It also includes third party motor vehicle and public risk insurance claims paid to persons in respect of policies taken out by

enterprises. However, it excludes any income which might be said to accrue to persons in the form of undistributed company income. It also includes any property income received by non-profit organisations such as private schools, churches, charitable organisations, etc.

Framework of accounts and sectors

In the Australian national accounts, four internal sectors are distinguished: corporate trading enterprises (including public trading enterprises), financial enterprises (including the nominal industry), households (including their unincorporated enterprises) and general government. All of these internal sectors engage in productive activity, receive and disburse income and accumulate assets. In this publication no accounts are shown for individual internal sectors. The transactions of the internal sectors are summarised in three accounts: a domestic production account (Table 1, page 608), a national income and outlay account (Table 3, page 609) and a national capital account (Table 4, page 610). In addition, there is an overseas sector having an account (Table 6, page 611) which shows a summary of the transactions into which overseas governments, persons and businesses enter with Australian residents.

The framework of sectors and accounts underlying the Australian national accounts is set out in the following diagram. The heavy rectangles depict the minimum system of four accounts which represent the consolidated accounts of the nation. The light rectangles represent the accounts for institutional sectors. The subdivision of the domestic production account represents production accounts for establishments classified according to industry. Selected transactions from such production accounts are shown in *Australian National Accounts, National Income and Expenditure* (5204.0). Such production accounts can be developed in detail to produce input-output tables.

ARTICULATION OF AUSTRALIAN NATIONAL ACCOUNTS

I. DOMESTIC PRODUCTION ACCOUNT

Industry (Establishments by kind of economic activity)						
Agriculture, forestry fishing and hunting	Mining	Manufacturing	Construction	Transport, storage and communication	Wholesale and retail trade	etc.

II. NATIONAL INCOME AND OUTLAY ACCOUNT

Corporate trading enterprises (including public trading enterprises)	Financial enterprises (including the nominal industry)	Households (including unincorporated enterprises)	General government
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III. NATIONAL CAPITAL ACCOUNT

Corporate trading enterprises (including public trading enterprises)	Financial enterprises (including the nominal industry)	Households (including unincorporated enterprises)	General government
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IV. OVERSEAS TRANSACTIONS ACCOUNT

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Description of the accounts

The *domestic production account* is a consolidation of the production accounts of all producers regardless of sector. The production account is shown as receiving revenue from the sale of goods and services to final buyers; all intermediate goods and services are cancelled out, since they represent a cost to one producer to offset the revenue of the other. On the payments side are shown the payments of indirect taxes less subsidies, and, since the account is presented from the point of view of the producing unit, the wages and salaries paid to employees. The balance is the gross operating surplus which may be divided into depreciation allowances and net operating surplus. Depreciation allowances is carried to the national capital account (or the sector capital accounts) and net operating surplus, together with wages and salaries and indirect taxes less subsidies, is carried to the national income and outlay account (or sector income and outlay accounts). In input-output tables, the domestic production account is broken up into accounts for separate industries, and transactions associated with intermediate usage of goods and services are shown in the production accounts for the separate industries.

The *national income and outlay account* is shown as receiving wages, salaries and supplements, net operating surplus and indirect taxes less subsidies from the domestic production account. From this income are deducted net payments of income and miscellaneous transfers to overseas; the remainder is the national disposable income. The outlay side of the account shows that this disposable income is largely used for final consumption expenditure and the balance is the nation's saving. The national income and outlay account is a consolidation of the sector income and outlay accounts.

The *national capital account* is a consolidation of the sector capital accounts. It shows on the receipts side depreciation allowances transferred from the domestic production account and saving transferred from the national income and outlay account (or from the sector income and outlay accounts). On the payments side are shown purchases by all sectors of new buildings and capital equipment, the increase in stocks of all sectors and a balance described as net lending to overseas. This concept of net lending to overseas includes increases (and, negatively, decreases) in Australia's overseas monetary reserves. The net lending to overseas is also the balance on current transactions in the overseas transactions account.

The *overseas transactions account* records all transactions of a current nature between Australian and overseas residents. Although this is an account for the overseas sector, the items are named from the Australian viewpoint. The account shows that Australia's current receipts from overseas consist of the value of Australia's exports of goods and services, property income received from overseas, transfers from overseas and withholding taxes from overseas. These receipts are used for Australia's imports of goods and services and payments of property income and transfers to overseas; the balance of current receipts represents net lending to overseas. Positive net lending to overseas corresponds to a surplus on current transactions with overseas, and negative net lending corresponds to a deficit. The transactions in property income shown in this account differ from estimates shown in balance of payments statistics because, in the national accounts, undistributed company income is not imputed to the beneficial owners. For this reason, net lending to overseas differs from the balance on current account shown in balance of payments statistics.

Estimates at constant prices

For certain kinds of intertemporal comparison, it is desirable to derive measures which attempt to remove the direct effect of price changes during the periods under review. Such estimates, conventionally described as 'at constant prices', are presented in Tables 2 and 5 (pages 609 and 610 respectively) for gross domestic product, exports and imports of goods and services, and gross national expenditure and its principal components.

Part 1 of *Australian National Accounts, National Income and Expenditure, 1976-77* (5204.0) contains a discussion of the conceptual problems involved in making these estimates. Appendix B of that publication contains a brief account of the sources and methods used in preparing the estimates.

It should be noted that estimates at constant prices involve approximations and assumptions, and care must be taken in the interpretation and use of results.

Reliability and revisions

Estimates of national income and expenditure are necessarily prepared from a very wide range of statistical information, some of which is available quickly and some of which is available only after a delay of several years. Some of it is closely related to the desired national income concepts, but some of it is not completely satisfactory in various respects, including coverage, concepts and timing. Estimates, in particular for the most recent years, are therefore subject to revision. This applies particularly to estimates based on income tax statistics—income of companies, non-farm unincorporated enterprises,

depreciation, and part of private gross fixed capital expenditure—which are subject to substantial revisions for the last one or two years because tabulations of income tax statistics become available progressively one to two years after the end of each financial year.

It is not possible to put precise limits on the degree of revision likely to any particular series, nor to state degrees of reliability in a statistical sense. These depend in large part on the range and quality of the basic statistical data.

National income and expenditure tables

(For explanatory note on item numbers see Note following Table 3.)

TABLE I
DOMESTIC PRODUCTION ACCOUNT
(\$ million)

	1977-78	1978-79	1979-80
Final consumption expenditure—			
1 Private	55,016	61,623	69,149
2 Government	15,190	16,764	18,719
Gross fixed capital expenditure—			
3 Private	12,617	14,483	15,846
4 Public enterprises	4,233	4,353	4,890
5 General government	3,697	3,859	4,049
6 Increase in stocks	-411	1,045	510
7 Statistical discrepancy	459	-157	-690
<i>Gross national expenditure</i>	<i>90,801</i>	<i>101,970</i>	<i>112,473</i>
8 Exports of goods and services	13,944	16,400	21,464
9 Less Imports of goods and services	14,467	17,236	20,119
Expenditure on gross domestic product	90,278	101,134	113,818
10 Wages, salaries and supplements	51,534	55,505	61,890
Gross operating surplus—			
Trading enterprises—			
11a Companies	10,274	10,978	12,759
11b Unincorporated enterprises	10,113	12,924	14,281
11c Dwellings owned by persons	6,157	7,153	8,075
11d Public enterprises	2,047	2,330	2,606
11e Financial enterprises	1,947	2,552	2,866
11f Less Imputed bank service charge	2,138	2,406	2,810
<i>Gross domestic product at factor cost</i>	<i>79,934</i>	<i>89,036</i>	<i>99,667</i>
12 Indirect taxes less subsidies	10,344	12,098	14,151
Gross domestic product	90,278	101,134	113,818
Gross farm product	4,041	6,473	7,243
Gross non-farm product	86,237	94,661	106,575

TABLE 2
EXPENDITURE ON GROSS DOMESTIC PRODUCT AT AVERAGE 1974-75 PRICES
(\$ million)

	1977-78	1978-79	1979-80
Final consumption expenditure—			
Private	39,021	40,084	41,004
Government	11,021	11,471	11,757
Gross fixed capital expenditure—			
Private	8,790	9,367	9,326
Public	5,638	5,467	5,310
Increase in stocks	-541	1,213	216
Statistical discrepancy	351	-72	-394
<i>Gross national expenditure</i>	<i>64,280</i>	<i>67,530</i>	<i>67,219</i>
Exports of goods and services	11,184	11,393	13,062
Less Imports of goods and services	9,927	10,800	10,677
Expenditure on gross domestic product	65,537	68,123	69,604
Gross farm product	3,787	5,100	4,637
Gross non-farm product	61,750	63,023	64,965

TABLE 3
NATIONAL INCOME AND OUTLAY ACCOUNT
(\$ million)

	1977-78	1978-79	1979-80
10 Wages, salaries and supplements	51,534	55,505	61,890
11g Net operating surplus	22,345	26,841	30,465
<i>Domestic factor incomes</i>	<i>73,879</i>	<i>82,346</i>	<i>92,355</i>
13 Less Net income paid overseas	1,131	1,350	1,598
12a Indirect taxes	10,842	12,682	14,900
12b Less Subsidies	498	584	749
<i>National income</i>	<i>83,092</i>	<i>93,094</i>	<i>104,908</i>
14 Less Net transfers to overseas	418	501	346
15g Withholding taxes from overseas	118	114	141
National disposable income	82,792	92,707	104,703
Final consumption expenditure—			
1 Private	55,016	61,623	69,149
2 Government	15,190	16,764	18,719
15 Saving	12,586	14,320	16,835
19 Disposal of income	82,792	92,707	104,703

NOTE. Items in all current price tables are numbered from 1 to 25, with or without the addition of a letter, and this system is used to identify the corresponding credit and debit entries in the accounts. In some cases the items correspond exactly, while in other cases an entry in one table is the sum of two or more entries in other tables; here the total is given a number, and the components have a number and a letter. In the remaining type of case all entries are given the same number and a distinguishing letter, because in this group one item is not the sum of one or more entries. The relationship between these items can still be traced through because the sum of all credit entries must equal the sum of all debit entries. A description of the numbered items can be found in *Australian National Accounts, National Income and Expenditure 1976-77* (5204.0).

TABLE 4
NATIONAL CAPITAL ACCOUNT
(\$ million)

	1977-78	1978-79	1979-80
11h Depreciation allowances	6,055	6,690	7,312
Saving—			
15 Increase in income tax provisions	26	395	640
16 Undistributed (company) income	1,406	1,828	2,231
17 Retained income of public financial enterprises	255	147	260
18 Household saving	8,847	10,262	10,302
19 General government surplus on current transactions	2,052	1,688	3,402
Finance of gross accumulation	18,641	21,010	24,147
Gross fixed capital expenditure—			
Private—			
3a Dwellings	3,882	4,028	4,784
3b Non-dwelling construction	2,235	2,532	2,730
3c Equipment	6,500	7,923	8,332
4 Public enterprises	4,233	4,353	4,890
5 General government	9,697	3,859	4,049
<i>Total gross fixed capital expenditure</i>	<i>20,547</i>	<i>22,695</i>	<i>24,785</i>
Increase in stocks—			
6a Private non-farm	5	84	917
6b Farm and public authority	-416	961	-407
7 Statistical discrepancy	459	-157	-690
21 Net lending to overseas	-1,954	-2,573	-458
Gross accumulation	18,641	21,010	24,147

TABLE 5
GROSS FIXED CAPITAL EXPENDITURE AND INCREASE IN STOCKS AT AVERAGE 1974-75 PRICES
(\$ million)

	1977-78	1978-79	1979-80
Gross fixed capital expenditure—			
Private—			
Dwellings	2,805	2,828	3,126
Non-dwelling construction	1,574	1,667	1,614
Equipment	4,411	4,872	4,586
<i>Total private</i>	<i>8,790</i>	<i>9,367</i>	<i>9,326</i>
Public	5,638	5,467	5,310
Total	14,428	14,834	14,636
Increase in stocks—			
Private non-farm	35	58	526
Farm and public authority	-576	1,155	-310
Total	-541	1,213	216

TABLE 6
OVERSEAS TRANSACTIONS ACCOUNT
(\$ million)

	1977-78	1978-79	1979-80
9a Imports f.o.b.	11,165	13,493	15,815
9b Transportation	2,129	2,498	3,176
9c Travel	551	644	527
9d Government transactions	223	219	261
9e Other goods and services	399	382	340
9 Imports of goods and services	14,467	17,236	20,119
13a Property income to overseas	1,405	1,633	1,931
14a Personal transfers overseas	367	398	333
14b General government transfers overseas	453	515	566
21 Net lending to overseas	-1,954	-2,573	-458
Use of current receipts	14,738	17,209	22,491
8a Exports f.o.b.	12,026	14,075	18,635
8b Transportation	1,326	1,559	1,964
8c Travel	345	425	528
8d Government transactions	93	98	117
8e Other goods and services	154	243	220
8 Exports of goods and services	13,944	16,400	21,464
13b Property income from overseas	274	283	333
14c Personal transfers from overseas	402	412	553
15g Withholding taxes	118	114	141
Current receipts from overseas	14,738	17,209	22,491

TABLE 7
MAIN AGGREGATES AT CURRENT PRICES, 1956-57 TO 1979-80
(\$ million)

Year	1		2	3	4	5	6	7 (1 to 6)
	Final consumption expenditure		Private gross fixed capital expenditure	Public gross fixed capital expenditure	Increase in stocks	Statistical discrepancy	Gross national expenditure	
	Private	Government						
1956-57	7,381	1,086	1,717	950	-45	-219	10,870	
1957-58	7,740	1,121	1,858	998	56	-117	11,656	
1958-59	8,142	1,223	1,922	1,100	253	-112	12,528	
1959-60	8,932	1,312	2,191	1,214	168	37	13,854	
1960-61	9,477	1,410	2,415	1,256	478	-39	14,997	
1961-62	9,763	1,529	2,328	1,380	-219	-119	14,662	
1962-63	10,462	1,629	2,580	1,434	253	-136	16,222	
1963-64	11,288	1,787	2,913	1,586	120	-108	17,586	
1964-65	12,213	2,042	3,398	1,852	561	36	20,102	
1965-66	12,990	2,373	3,657	2,066	109	-69	21,126	
1966-67	14,026	2,700	3,825	2,184	336	-148	22,923	
1967-68	15,321	3,048	4,164	2,369	125	-215	24,812	
1968-69	16,580	3,331	4,730	2,532	698	-162	27,709	
1969-70	18,234	3,643	5,162	2,756	449	67	30,311	
1970-71	20,118	4,202	5,839	2,935	496	-33	33,557	
1971-72	22,329	4,756	6,331	3,297	55	241	37,009	
1972-73	24,976	5,425	6,685	3,476	-287	673	40,948	
1973-74	29,465	6,765	7,772	3,983	1,252	1,706	50,943	
1974-75	35,669	9,160	8,535	5,673	873	1,430	61,340	
1975-76	43,368	11,460	10,227	6,694	50	423	72,219	
1976-77	49,485	13,413	11,769	7,135	1,154	400	83,356	
1977-78	55,016	15,190	12,617	7,930	-411	459	90,801	
1978-79	61,623	16,764	14,483	8,212	1,045	-157	101,970	
1979-80	69,149	18,719	15,846	8,939	510	-690	112,473	

Year	8	9	10 (7+8-9)	11	12	13	14
	Exports of goods and services	Imports of goods and services	Gross domestic product	Gross domestic product at factor cost	National income	Household income	Wages, salaries and supplements
1956-57	2,184	1,736	11,318	10,121	10,458	9,144	5,758
1957-58	1,840	1,925	11,571	10,274	10,529	9,146	5,980
1958-59	1,860	1,960	12,428	11,080	11,286	9,844	6,273
1959-60	2,126	2,285	13,695	12,220	12,449	10,811	6,961
1960-61	2,168	2,601	14,564	12,993	13,201	11,617	7,500
1961-62	2,452	2,204	14,910	13,375	13,472	12,045	7,746
1962-63	2,491	2,610	16,103	14,460	14,544	12,830	8,197
1963-64	3,156	2,860	17,882	16,110	16,251	14,234	8,937
1964-65	3,035	3,473	19,664	17,707	17,777	15,564	10,018
1965-66	3,135	3,617	20,644	18,504	18,578	16,355	10,822
1966-67	3,459	3,695	22,687	20,416	20,396	18,107	11,816
1967-68	3,539	4,134	24,217	21,736	21,711	19,048	12,860
1968-69	3,895	4,268	27,336	24,597	24,583	21,425	14,237
1969-70	4,733	4,759	30,285	27,262	27,208	23,634	15,992
1970-71	5,044	5,092	33,509	30,201	30,252	26,543	18,340
1971-72	5,596	5,216	37,389	33,692	33,849	30,002	20,496
1972-73	6,937	5,347	42,538	38,295	38,706	34,417	22,904
1973-74	7,762	7,671	51,034	45,714	47,000	42,338	28,078
1974-75	9,938	10,018	61,260	54,644	56,608	52,557	36,027
1975-76	10,956	10,473	72,702	64,181	67,111	61,643	41,539
1976-77	13,152	13,294	83,214	73,465	76,717	70,486	46,934
1977-78	13,944	14,467	90,278	79,934	83,092	78,019	51,534
1978-79	16,400	17,236	101,134	89,036	93,094	86,824	55,505
1979-80	21,464	20,119	113,818	99,667	104,908	96,644	61,890

Sources of information

The detailed annual estimates of national income and expenditure are published in *Australian National Accounts, National Income and Expenditure* (5204.0). Preliminary estimates (less detailed) are published in a Budget Paper *National Income and Expenditure* usually in August. Quarterly estimates are published in *Quarterly Estimates of National Income and Expenditure, Australia* (5206.0).

Australian National Accounts, Gross Product by Industry at Current and Constant Prices, 1977-78 was published in December 1979. The Bureau also compiles input-output tables for the Australian economy. Tables for the year 1968-1969 were published in *Australian National Accounts, Input-Output Tables 1968-69* (5209.0) in November 1977. Final tables for 1974-75 were published in *Australian National Accounts, Input-Output Tables 1974-75* (5209.0) early in 1981.

The figures shown on pages 608-11 are as published in *Budget Paper, National Income and Expenditure*, 1979-80.

CHAPTER 24

OVERSEAS TRANSACTIONS

This chapter includes statistics of overseas trade, balance of payments, and overseas investment by private investors; however, because of limitations of space, the statistics are mainly restricted to summarised form.

OVERSEAS TRADE

Constitutional provisions and legislation

Constitutional provisions

By the Commonwealth of Australia Constitution Act, section 51 (1), the power to make laws with respect to trade and commerce with other countries was conferred on the Australian Parliament. Under section 86 of the Constitution, the collection and control of duties of customs and excise passed to the Executive Government of the Commonwealth on 1 January 1901. Other references to trade and commerce are contained in sections 87 to 95 of the Constitution.

Commonwealth Government Legislation

Commonwealth Government legislation affecting overseas trade includes the *Customs Act* 1901, the *Customs Tariff Act* 1966 and the *Customs Tariff (Anti-Dumping) Act* 1975. The *Customs Tariff Act* 1966 provides the statutory authority for imposing the actual rates of duty operative from time to time, while the *Customs Tariff (Anti-Dumping) Act* 1975 provides protection for Australian industry against various forms of unfair trading.

The Customs Tariff

The first *Australian Customs Tariff* was introduced by Resolution on 8 October 1901, from which date uniform duties came into effect throughout Australia. The *Australian Customs Tariff* has been developed in conformity with the policy of protecting economic and efficient Australian industries and of granting preferential treatment to certain imports from countries of the Commonwealth and certain developing countries. Customs collections are a major source of revenue, but in its protective character the tariff has an important influence on the Australian economy.

The present tariff provides for general and preferential rates of duty, and its structure is based on the 'Customs Co-operation Council Nomenclature' (formerly known as the 'Brussels Nomenclature') which has its origins in the Convention on Nomenclature for the Classification of Goods in Customs Tariffs, signed in Brussels on 15 December 1950. The *Australian Customs Tariff* has been based on the Customs Co-operation Council Nomenclature since 1 July 1965.

Preferential rates. Preferential rates apply to certain goods, the produce or manufacture of the United Kingdom and Ireland (terminating on 30 June 1981), Canada, New Zealand, Papua New Guinea and of certain specified developing and declared preference countries provided that such goods comply with the laws in force at the time affecting the grant of preference.

Details of the rules covering the application of preferential rates may be found by reference to Sections 151 and 151A of the *Customs Act* 1901.

A full list of developing and declared preference countries and goods excluded from the special rates of duty normally applicable, in the case of developing countries, is given in the *Australian Customs Tariff*.

General rates. General rates apply to goods from all countries which do not qualify for preferential rates of duty under a particular tariff classification.

By-law provisions. Customs By-laws and Ministerial Determinations are legal instruments, made in accordance with the provisions of the *Customs Act* 1901, to authorise admission of imported goods at rates of duty lower than those normally applicable. The rates of duty that apply where concessional entry has been granted are contained in the *Customs Tariff Act* 1966 and are normally identified by the words 'as prescribed by by-law'. The most frequently used by-law provision is Item 19 in Schedule 2 to the *Customs Tariff Act* 1966 which allows admission of goods at concessional rates, 'being goods a suitable equivalent of which that is the produce or manufacture of Australia is not reasonably available'. Normally, by-laws identify goods by general description, have neither quantity nor time

limitations and may be used by any importer. Ministerial Determinations may be either in that form or, if it is necessary to limit the availability of concessions to ensure that the tariff protection accorded to local industry is maintained, be restricted in some way, e.g. quantity or time limitations. By-laws and notices of the making of Ministerial Determinations are published in the Commonwealth of Australia Gazette.

Anti-Dumping duties. The *Customs Tariff (Anti-Dumping) Act 1975* provides protection for Australian industry against various forms of unfair trading. Under this Act dumping duty may be imposed on goods that are sold to Australian importers at a price which is less than the normal value of the goods, where this causes or threatens material injury to an Australian industry.

For details on the calculation of dumping duty see the *Customs Tariff (Anti-Dumping) Act 1975* and the publication "Facts about the Australian Dumping Law" which is available from the Department of Business and Consumer Affairs, Canberra, A.C.T. 2600.

Import controls

Import controls, by global tariff quotas or import licensing, are introduced to assist local industry following inquiry and report by the Industries Assistance Commission and the Temporary Assistance Authority. At present, the textile, apparel, footwear and motor vehicle industries are assisted by import control. Import licensing firmly limits import quantities, provides for penal and seizure action and may be selectively applied to particular goods or countries. As such, it differs from global tariff quotas which allow imports up to a predetermined level, above which additional duties may be imposed. At present, some 60 commodities or groups of commodities are subject to import controls. Further information on import controls may be obtained from the Bureau of Customs, Department of Business and Consumer Affairs, Edmund Barton Building, Barton, A.C.T. 2600.

Export controls and incentives

Export restrictions. Section 112 of the *Customs Act 1901* provides that the Governor-General may, by regulation, prohibit the exportation of goods from Australia and that this power may be exercised by: (a) prohibiting the exportation of goods absolutely; (b) prohibiting the exportation of goods to a specified place; and (c) prohibiting the exportation of goods unless prescribed conditions or restrictions are complied with. Goods subject to this export control are listed in the Customs (Prohibited Exports) Regulations.

Exchange control—Banking Act 1959. As an integral part of the framework of exchange control, a control over goods exported from Australia is maintained under the provisions of Part III of the Banking (Foreign Exchange) Regulations to ensure that the full proceeds of such goods are received into the Australian banking system and that these proceeds are received in the currency and in the manner prescribed by the Reserve Bank of Australia. This action is complementary to that taken under other parts of the Banking (Foreign Exchange) Regulations to control the movement out of Australia of capital in the form of securities and currency.

Export incentives. The Commonwealth Government provides financial incentives to encourage exports. The *Export Market Development Grants Act 1974* was introduced to operate for five years from 1 July 1974 but was revised (to improve its effectiveness) with effect from 1 July 1978. The scheme will now operate until 30 June 1982. The scheme administered by the Export Development Grants Board, which is responsible to the Minister for Trade and Resources, is designed to encourage exporters and potential exporters to seek out and develop overseas markets. The scheme covers exporters of primary products, industrial goods, certain services including tourism, know-how and industrial property rights, whether the exporter is an individual, partnership, company or marketing organisation.

The scheme operates by way of taxable grants, to a maximum of \$100,000 (and in certain circumstances to \$125,000), against eligible expenditure incurred on overseas market research and promotional publicity activities and development.

The Board also administers the *Export Expansion Grants Act 1978*, a scheme designed to reward improved export performance. Grants, which are taxable, are calculated on a formula applied to the increase in exports in a grant year, over the average annual exports in the three immediately preceding years. The scheme covers a wide range of goods and services. However, some products are excluded including minerals, wool, wheat, sugar, livestock, most meats, woodchips, hides and skins of cattle and sheep, unwrought aluminium, unrefined lead, unrefined copper, gold and silver. The scheme took effect from 1 July 1977 and will run until mid 1982.

Export education. A national export consciousness program entitled the "Export Now" campaign was launched by the Prime Minister in February 1979. The campaign, which is managed by the Department of Trade and Resources in close association with the Trade Development Council, will

run for three years. It aims to increase the awareness of industry and of the community at large, of the economic benefits to be obtained from increasing Australia's exports and to inform exporters of the range of assistance available to them from the Government.

State Export Action Committees. Committees comprising leading representatives from business, commerce, unions and Federal and State Governments have been formed in each State and the Northern Territory to arrange and implement a broad-ranging program of seminars, workshops and training courses for the "Export Now" campaign. This is being supported by a nationwide publicity program.

Export awards. To give public recognition to firms and individuals for outstanding export endeavour and to support the "Export Now" campaign, a number of new export awards have been created including: The Governor-General's Award for Export Excellence; Export Dedication Awards which recognise outstanding efforts by individual employees; the Major Trading Banks of Australia Export Awards highlighting the export achievements of firms and employees in the export of Australian services and technology and, the Australian Mining Industry Council Award for export achievement in the mining industry. These are in addition to a new series of State export awards and the long-established Annual Export Awards organised in association with the Confederation of Australian Industry.

Trade descriptions

The Commerce (Trade Descriptions) Act 1905. This Act, administered by the Bureau of Customs of the Department of Business and Consumer Affairs, gives power to require the application of a proper trade description to certain prescribed goods imported into or exported from Australia. Goods which must bear a prescribed trade description upon importation into Australia are specified in the Commerce (Imports) Regulations. As regards exports from Australia, marking requirements are prescribed in regulations issued under the Act and in relation to specified export commodities.

Government authorities

Export Finance and Insurance Corporation

The Export Finance and Insurance Corporation (EFIC) was established by the Commonwealth Government in 1975 to provide Australian exporters with a specialised range of insurance guarantee and finance facilities not normally available from commercial sources. The EFIC took over the functions of the Export Payments Insurance Corporation which had been operating since 1956.

Australian Overseas Projects Corporation

The Australian Overseas Projects Corporation was established by the *Australian Overseas Projects Corporation Act* No. 105 of 1978 with the aim of assisting Australian consultancy and construction firms in securing contracts overseas. Its prime function is to act as a catalyst in the formation of consortia for these projects which, by their nature, are too large or too diverse in scope, to be handled by a single company. On request from private enterprise it can also act as the prime contractor in projects where an Australian Government interest in a consortium is of assistance in securing work. The Corporation can also act as a channel to make expertise located in Government and semi-Government Departments and Authorities available for use by Australian firms.

Trade Missions

Since 1954 the Commonwealth Government has sent trade missions abroad as part of its trade promotion program. The experience acquired has indicated the need for flexibility in techniques to suit particular products or markets. At present the following types of trade missions are in use:

Survey missions. These are organised to obtain precise knowledge about the export trade potential for specific products in one or more overseas markets. Such methods are used to explore export prospects in new or developing areas where commercial intelligence is not readily available or where a complex industry is involved and the industry requires special export knowledge.

Specialised and general trade missions. Arrangements are made for specific industries or groups of firms representing a number of industries to participate in a planned selling campaign in overseas markets with known sales potential. The mission visits the market, publicises its products and negotiates sales.

Up to the end of September 1980, Australia had sent overseas 176 trade and survey missions.

Trade displays, fairs, exhibitions and store promotions

For many years Australia has organised or participated in numerous major trade fairs, exhibitions and displays throughout the world.

Initially, the emphasis was on participation in general trade fairs directed at the public and the general commercial community; however, with the development of export promotion techniques and the greater diversity of goods available for export, greater emphasis is now being placed on individual Australian trade displays and participation in specialised trade shows directed almost entirely at the business community. In addition, display rooms in Trade Commissioner offices are currently in use in Singapore, Kuala Lumpur, Hong Kong, Jakarta, Port Moresby, Suva and Bangkok.

Trade relations

Multilateral—General Agreement on Tariffs and Trade

The General Agreement on Tariffs and Trade (GATT) is a multilateral treaty which provides the main framework of rules for the conduct of world trade. It also provides a forum in which countries can discuss and seek to overcome their trade problems as well as negotiate to enlarge world trading opportunities. The aim of the GATT is to liberalise world trade and place it on a secure basis, thereby contributing to economic growth and development.

The GATT entered into force in January 1948 with Australia being an original signatory. Since that date GATT membership has expanded to 85 countries, with a further 32 countries applying its rules on a *de facto* basis.

Seven rounds of multilateral negotiations to liberalise world trade have been held under the GATT, the most recent of which was the Tokyo Round (1975-1979). Concessions negotiated by member countries are incorporated in their "Schedules of Concessions" which form an integral part of each country's obligations under the GATT. These concessions generally involve commitments not to increase tariffs on specific products above specified levels. The Tokyo Round negotiations also resulted in a number of agreements on non-tariff measures which clarified and expanded the existing rules of the GATT. These agreements included codes of conduct on subsidies and countervailing duties, government procurement, customs valuation, standards, import licensing, anti-dumping, trade in civil aircraft and a group of texts under the heading "Framework for the Conduct of International Trade". The latter includes texts which deal with reciprocity, more favourable treatment and fuller participation for developing countries, trade measures for balance of payments purposes, safeguard action for development purposes, consultation, dispute settlement and surveillance. There are also arrangements relating to bovine meat and dairy products.

All major developed countries have acceded or intend to accede to most of these agreements and Australia has already acceded or intends to accede to those on customs valuation, anti-dumping, import licensing, the Framework texts and the arrangements on bovine meat and dairy products. Decisions have been deferred on standards and subsidies and countervailing duties.

An important aspect of the GATT's work is to oversee the application of the trade rules established under its auspices. The main features of the General Agreement are:

- trade without discrimination; the guarantee of most-favoured-nation tariff treatment to all Contracting Parties
- agreement on commercial policy rules for international trade, including restrictions on the use of subsidies and quantitative restrictions
- provision of mechanism for consultations and dispute settlement
- safeguard, or emergency protection, provisions, enabling countries to apply temporary measures to industries seriously threatened by imports
- special recognition of the needs and capabilities of developing countries.

The highest body of GATT is the Session of Contracting Parties which usually meets annually. GATT decisions are generally arrived at by consensus, rather than vote, though two-thirds majority votes are required for the granting of "waivers", (authorisations for members to depart from specific GATT obligations). Between Sessions of the contracting parties the Council of Representatives is authorised to act on both routine and urgent matters. The Council meets about six times a year.

In 1975 a Consultative Group of 18 comprising high level officials from key member countries was established to operate essentially as an executive steering group to assist GATT members carry out some of their major responsibilities more effectively.

The Committee on Trade and Development (CTD) reflects the GATT's increased focus on the problem of developing countries and has the duty of following all activities of GATT to ensure that problems of concern to developing countries are given priority attention. The CTD was formed after the introduction, in 1965, of Part IV of GATT which embodies commitments to individual and joint action by Contracting Parties, aimed at ensuring that the developing countries can increasingly find the means to raise living standards and promote rapid economic development through increased

participation in international trade. This commitment has been elaborated by the Framework agreement enabling differential and more favourable treatment for developing countries, as a permanent legal feature of the world trading system.

A number of other committees have also been established to supervise implementation of the Tokyo Round agreements, examine the situation of countries using trade restrictions for balance of payments purposes, the agreement on textiles, anti-dumping practices and financial/administrative questions. Working parties are set up to deal with current questions, such as requests for accession, verification that agreements concluded by members are in conformity with GATT and to investigate disputes.

The developed country contracting parties to the GATT have introduced tariff preferences for developing country products under the Generalised System of Preferences (GSP).

The Australian System of Tariff Preferences for Developing Countries, in common with those of other donors, is a unilateral, non-reciprocal and non-contractual provision of specified preferential tariff advantages. Accordingly, Australia reserves the right at any time to modify, withdraw, suspend or limit the preferential treatment for any item or with respect to any beneficiary.

Australia's system of tariff preferences was introduced in 1966 (the first in the world) and was substantially revised and expanded from 1 January 1974. Reviews undertaken in 1976 and 1979 have further extended the product coverage of the system and it now covers most dutiable manufactured, semi-manufactured and substantially processed primary products. Margins of preference offered under the system are generally 10 to 15 percentage points below the General Tariff rate.

In 1978-79 import clearances from developing countries totalled \$2,880 million of which \$2,055 million (71%) was eligible for duty-free entry at General or preferential rates. A further \$359 million (13%) was dutiable at preferential rates and only \$466 million (16%) was excluded from preference and dutiable at General Tariff rates.

The system is designed to assist developing countries to overcome their disadvantages in competing with other countries in the Australian market, providing always that such imports do not cause or threaten injury to Australian industry. A range of products where developing countries generally are already competitive on the Australian market are excluded from the system and preferences on a number of additional products have been withdrawn because of disruption to local industry. In some cases specific beneficiaries have been excluded from a preference.

Proposals for the addition or withdrawal of products from the system are referred to the Industries Assistance Commission for inquiry and report within 45 days. This procedure gives all interested parties the opportunity to submit their views in evidence to a public inquiry.

Market advisory services

The Australian Government has established a Market Advisory and Preferences Section in the Department of Trade and Resources to advise and assist developing countries and countries with centrally planned economies in the marketing of their products in Australia. The Section, which is located in Canberra, is supported by two experienced Australian Trade Commissioners—one located in Sydney and the other in Melbourne—to maintain contact with the commercial sector and provide direct practical assistance.

Bilateral arrangements

West Europe—Australia has not concluded a trade agreement with the European Economic Community. The EEC comprises the world's largest trading bloc (accounting for 40 per cent of world trade) and is Australia's second largest trading partner and its largest source of imports.

Although the EEC has formal trading arrangements with a large number of countries providing either free trade or preferential treatment, no such arrangement has been concluded with Australia. However, in the context of the Multilateral Trade Negotiations Australia was able to gain improved access into Community markets for a number of agricultural products. In addition, Australian exports of a range of agricultural and industrial products are benefitting from progressive tariff reductions which have been implemented by the Community from 1 January 1980.

In recent years, Australia has suffered a large and growing trade deficit with the EEC which has reflected an imbalance of trading opportunities. Since 1977 Ministerial and high level officials' discussions between Australia and the EEC have been directed towards correcting this situation. In May 1979 a bilateral settlement with the EEC was concluded within the Multilateral Trade Negotiations which provides certain Australian agricultural exports, particularly beef and cheese, with valuable new openings and guaranteed levels of access in EEC markets. While the bilateral settlement does not eliminate all of the problems which affect Australia's trading relationship with the EEC, it represents an important beginning. In areas such as EEC export subsidies, where serious problems still exist,

Australia will continue to seek a limitation on the level of those subsidies particularly when they operate to the disadvantage of Australian exports in our traditional markets. Greater co-operation has also been sought from the EEC in international commodity stabilisation especially in respect of sugar.

While agriculture remains the dominating feature of the bilateral relationship, there is significant potential for developing Australia's role as a supplier of a wide range of minerals and energy resources and in attracting increased European investment to resource based development projects in Australia.

U.S.A.—Formal trading relations with the U.S. are governed by common membership of the GATT and there is also extensive contact on trading issues between Governments.

Trade agreements

Asia

People's Republic of China—signed 1973. The Agreement provides, inter alia, for reciprocal most favoured nation treatment for imports, while recognising the preferential arrangements extended by both countries. The Agreement includes schedules of goods which each country is interested in exporting to the other. It also provides that exchanges of goods and technical services under contracts and agreements will be at reasonable international market prices; that payments in relation to trade will be in freely convertible currency; and that each country will promote the inter-change of trade representatives, groups, and delegations, and encourage the commercial exchange of industrial and technical expertise. The Agreement also established a Joint Trade Committee to further the aims of the Agreement.

Japan—signed 1957. The current Agreement on Commerce between Australia and Japan was initially signed in 1957, amended in 1963 and formally ratified on 27 May 1964. It provides for reciprocal most favoured nation treatment of imports while recognising the preferential arrangements of both countries; for certain commitments by Japan in regard to some important Australian export commodities including wool, soft wheat, sugar, canned meat, leather, butter and cheese; and for equal opportunity for Japanese products in relation to Commonwealth Government purchases from suppliers overseas. It also provides for close consultation between the two countries on matters relating to trade.

Republic of Korea—signed 1975. The current Agreement replaced an earlier Agreement entered into by Australia and the Republic of Korea in 1965. The new Agreement states that the two governments are to take all appropriate measures to facilitate, strengthen, and diversify bilateral trade in accordance with the General Agreement on Tariffs and Trade; recognises the need to improve the conditions of world commodity trade; declares support in principle for international commodity agreements, and expresses support in principle for the conclusion of long-term commercial contracts between organisations and enterprises of the two countries. The Agreement also established a Joint Trade Committee to further the aims of the Agreement.

Philippines—signed 1965. Provides, inter alia, for reciprocal most favoured nation treatment of imports from either country; recognises preferential agreements of both countries; established a Joint Commission and encourages Australian investment and joint ventures in the Philippines. The Agreement came into force in May 1979.

Thailand—signed 1979. Provides, inter alia, for strengthening and diversification of bilateral trade; supports trading arrangements among ASEAN countries; supports international commodity agreements; encourages economic, commercial and industrial co-operation, including investment in Joint Ventures. Provides for a Joint Trade Committee to meet annually or as required.

Socialist Republic of Vietnam—signed in 1974. Provides, inter alia, for reciprocal most favoured nation treatment for imports and expresses support for the principle of long-term commercial contracts.

Indonesia—signed 1972. The current Agreement replaced an earlier Agreement signed in 1959. It provides, inter alia, for reciprocal most favoured nation treatment of imports; expresses support for trade initiatives and arrangements among member countries of the Association of South East Asian Nations (ASEAN); declares support in principle for international commodity agreements and encouragement for Australian commercial investment in Indonesia.

Malaysia—signed 1958. The Agreement provides for each country to accord preferences to the other on certain specified goods. The exchange of these preferences was placed on a more flexible basis by an Exchange of Letters on 21 February 1975. The Agreement further provides for protection of Malaysia's tin and rubber exports to Australia and of Australia's wheat exports to Malaysia against dumped or subsidised competition. There are also certain guarantees of market access for Australian wheat in the Malaysian market and for natural rubber in the Australian market provided that the Papua New Guinea natural rubber crop is absorbed. The agreement also assures Malaysia that Australian tariff or import licensing treatment of natural rubber will be the same as for synthetic rubber.

Pacific

New Zealand—The New Zealand–Australia Free Trade Agreement (NAFTA) signed in 1965 came into force on 1 January 1966 and formally established a free trade area between Australia and New Zealand. However, complete free trade was not thereby achieved. The Agreement provides only for free trade in certain scheduled goods. Provision is made for additions to the free trade schedule. It also provides in respect of non-scheduled goods, for the two governments to agree on special measures (including the remission or reduction of duties) beneficial to the trade and development of each country.

The 1933 Agreement continues in effect as part of the Free Trade Agreement except as superseded or modified by it. Following the termination in early 1973 of the trade agreements which they had with Britain, Australia and New Zealand entered into an interim arrangement on tariffs and tariff preferences on 7 May 1973. This has been replaced by a new Agreement which came into effect on 1 December 1977 and allows for the continuation of the contractual right of both countries to margins of preferences in each others' markets.

Papua New Guinea—came into force 1977. The Papua New Guinea Australia Trade and Commercial Relations Agreement (PATCRA) provides, *inter alia*, that subject to certain exceptions, trade between Australia and Papua New Guinea shall be free of duties and other restrictions.

Americas

Canada—signed 1960. Provides for each country to give the other tariff preferences on specific goods and for the exchange of preferences in each country's tariff derived from the preferential agreements each had with Britain. The termination of these agreements with Britain created a need for Canada and Australia to review their own preferential trading arrangements. An Exchange of Letters governing the future operation of the 1960 Agreement was signed on 25 October 1973. The Exchange provides for a continuation of the tariff preferences, but on a more flexible basis, with some other modifications of provisions of the 1960 Agreement, particularly those relating to indirect shipment of goods and to anti-dumping procedures.

Brazil—signed 1978. The Agreement represented a significant development in strengthening trade and economic links between Australia and Brazil. It basically confirms GATT rights and obligations and emphasises industrial co-operation including investment. A significant feature is the ten year initial life of the Agreement to cover long term commodity contracts. It also establishes a Joint Consultative Committee which meets annually.

Europe

East Europe—The development of Australia's trade relations with the countries of East Europe began as part of a policy of market diversification away from West Europe in the mid 1960s.

Formal trade agreements Australia has signed with the German Democratic Republic, Hungary, Bulgaria (all in 1974), Romania (in 1975) and Poland (in 1978—supplementary to the earlier 1966 Agreement) are broadly similar in their provisions. They either confirm reciprocal most favoured nation treatment of imports while recognising preferential arrangements or, as in the Trade Agreements with Hungary, Poland, and Romania, acknowledge that trade between Australia and these countries is to be in accordance with the rights and obligations of both countries under the General Agreement on Tariff and Trade. They provide for the encouragement and facilitation of the further development of mutually beneficial trade and economic relations and express support in principle for the conclusion of relevant international commodity agreements aimed at improving the conditions of international trade in primary products.

There are provisions to encourage and facilitate the development of economic co-operation and the negotiation of long-term commercial contracts between respective enterprises and organisations and the interchange of commercial trade and technical representations, groups and delegations.

In addition, the Agreements with the German Democratic Republic and Bulgaria provide for the exchange of indicative lists of goods each country is interested in exporting to the other.

The Agreement with the U.S.S.R. (signed 1965) provides for reciprocal most favoured nation treatment of imports and recognised the preferential agreements of both countries. A supplementary Agreement on the Development of Trade and Economic Relations was signed in 1973 and provides, *inter alia*, for encouragement and facilitation of trade between the two countries; encouragement of industrial and technical co-operation; support for international commodity agreements; and established a Mixed Commission to provide a forum for regular consultations on measures to develop bilateral trade and on bilateral trade problems, and to further the aims of the Agreement.

Mixed Commissions are also established by these Agreements to provide a forum for regular bilateral discussions on trade development and trade related issues and problems. Other Bilateral Trade

Agreements are in force with Yugoslavia, signed 1970, Czechoslovakia, signed 1972. A protocol (to the Trade Agreement with the German Democratic Republic) on Industrial and Technical Co-operation was signed in Berlin in 1977.

Switzerland—signed 1938. Provides, inter alia, for most favoured nation treatment in the Customs Tariff of each country; for reduction in import duties on certain goods by each country and minimum annual quotas for several Australian primary products exported to Switzerland.

Middle East

Bahrain—The Agreement on Trade, Economic and Technical Co-operation was signed in May 1979. The Agreement expresses the intention of the two Governments to develop and expand trade and economic relations by the establishment of a Joint Committee, the facilitation of joint ventures in the two countries, and encouraging the exchange of technology and technical expertise between commercial enterprises.

Iraq—The Agreement on Trade, Economic and Technical Co-operation was signed in March 1980. The Agreement provides, inter alia, for the exchange of most favoured nation treatment between Australia and Iraq, encouragement to the negotiation of commercial contracts between relevant organisations and commercial enterprises and the establishment of a Joint Governmental Commission.

Saudi Arabia—The Agreement on Economic and Technical Co-operation was signed in March 1980 and provides for the facilitation of joint ventures in each country, encouraging the exchange of scientific and technological research, and the establishment of a Joint Commission.

Iran—signed 1974. The Agreement states that the two governments are to take all appropriate measures to facilitate, strengthen, and diversify trade and encourage industrial and technical co-operation; declares the support of both governments for the principle of long-term contracts between organisations and enterprises of the two countries; incorporates schedules of goods each country is interested in exporting to the other; and provides that payments in relation to trade will be in convertible currency. The Agreement also established a committee of representatives to further the aims of the Agreement.

Others

India—signed 1976. The Agreement confirms that trade between the two countries shall be conducted in accordance with the provisions of GATT. It provides for encouragement and co-operation between India and Australia and establishes a Joint Trade Committee to meet annually and review the operation of the Agreement and advance its objectives.

South Africa—signed 1935. Provides for most favoured nation treatment in the Customs Tariff of each country.

Trade services

Trade Commissioner Service

The stimulation of interest abroad in Australia's exports is an important government activity in which the Australian Trade Commissioner Service plays a prominent part. A brief account of the establishment and growth of the Trade Commissioner Service before the 1939-45 War is available in Year Book No. 51, page 496. Since the War the service has increased steadily; by late 1980 there was an establishment of 171 Trade Commissioners and Assistant Trade Commissioners in Australia and at 55 posts in 46 countries.

Trade Commissioners are responsible for providing commercial intelligence in their territories in the fields of manufactured goods, rural commodities, resources, energy and technical and allied services. Particular facilities provided for Australian exporters and export organisations include; surveying market prospects; advising on selling and advertising methods; arranging introductions with buyers and agents; providing reports on the standing of overseas firms; advising and assisting business visitors; helping to organise and carry through trade missions, trade displays, newspaper supplements, and other promotion and publicity media; providing information on import duties, import licensing, economic conditions, quarantine and sanitary requirements, and other factors affecting the entry and sale of goods and services and helping to attract desirable investment.

In some countries Trade Commissioners also participate in inter-governmental negotiations in the resources and commercial fields. In certain countries where there is no diplomatic or consular mission, Trade Commissioners are called upon to act as the Australian government representative.

Trade Commissioners, Assistant Trade Commissioners and Trainee Trade Commissioners are drawn from both private enterprise and the public service. Applications for entry are invited periodically by public advertisement. Recruitment is generally at the Trainee Trade Commissioner and Assistant Trade Commissioner level and officers are promoted to higher grades or to Trade Commissioner

as experience and performance warrant. In the majority of posts the Trade Commissioner is supported by an Assistant Trade Commissioner and, in many cases, also by another Trade Commissioner.

The Trade Commissioner Service is administered by the Department of Trade and Resources (as distinct from the diplomatic and consular services administered by the Department of Foreign Affairs), but in countries where there is an Australian diplomatic or consular mission it is the practice for Trade Commissioners to be attached to that mission and to hold an appropriate diplomatic or consular rank—Minister (Commercial), Counsellor (Commercial) or First or Second Secretary (Commercial).

The countries where Australian Trade Commissioner posts are located are shown in the following list. Except where indicated the missions are located in capital cities only. Algeria; Argentina; Austria; Bahrain; Belgium; Brazil (Rio de Janeiro); Britain; Canada (Vancouver, Toronto, Ottawa); China, People's Republic; Egypt, Arab Republic of; Fiji; France; Germany, Federal Republic of; Greece; Hong Kong; India; Indonesia; Iraq; Israel; Italy (Rome, Milan); Japan (Tokyo, Osaka); Kenya; Korea, Republic of; Kuwait; Malaysia; Mexico; Netherlands; New Zealand (Wellington, Auckland); Papua New Guinea; Philippines; Poland; Saudi Arabia; Singapore; South Africa (Johannesburg); Spain; Sweden; Switzerland (Geneva); Thailand; United Arab Emirates (Abu Dhabi); United States of America (Washington DC, Chicago, Los Angeles, San Francisco, New York); U.S.S.R.; Venezuela; Yugoslavia, Socialist Federal Republic of.

Full details of the Australian Trade Commissioner posts are available from the Department of Trade and Resources, Canberra, A.C.T. 2600.

Australian Trade Correspondents and Marketing Officers

Detached Australian Trade Correspondents and Marketing Officers supplement the work of the Trade Commissioner in whose territory they are located. Correspondents are situated in various locations throughout the world.

Australian Standard Commodity Classification

The Australian Standard Commodity Classification (ASCC) has been developed by the ABS to enable users to compare statistics of commodities produced in Australia with statistics of commodities imported and exported.

The ASCC manual (1207.0 and 1208.0) links production, import and export items at their most detailed level of comparability in the form of standard (ASCC) commodity items. In a large number of cases, however, due to the differences between production, import and export items, comparability is only achieved at fairly broad aggregate levels. In the ASCC, commodities are grouped under industries (as defined in the Australia Standard Industrial Classification (ASIC)) in which they are typically produced.

The first edition of the ASCC was restricted to commodities originating in the manufacturing industries. The second edition, which relates to the year 1977–1978 was published in 1980 and has been amended to also include commodities originating in the agriculture, forestry, fishing, hunting and mining industries.

The classification will continue to be developed over the coming years to improve the alignment between production, imports and exports.

The ABS also publishes a statistical publication, *Comparable Commodity Statistics of Production, Imports and Exports* (1310.0) containing commodity statistics of Australian production, imports and exports based on the standard (ASCC) items contained in the ASCC manual. The second edition of this publication, was published in 1980, relates to the year 1977–78 and contains Australian production, import and export commodity statistics of manufactured goods classified in accordance with the standard (ASCC) items in the second edition of the ASCC manual.

Trade representation in Australia

Details of Trade Representatives in Australia are available from the Department of Foreign Affairs, Canberra, A.C.T. 2600.

Collection and presentation of statistics

Source of data

Overseas trade statistics are compiled by the Australian Bureau of Statistics from documentation submitted by exporters or importers or their agents to the Bureau of Customs as required by the Customs Act.

Scope of the statistics

The statistics presented below are, with one exception, recorded on a *general trade* basis, i.e. total exports include both Australian produce and re-exports, and total imports comprise goods entered directly for domestic consumption together with goods imported into Customs warehouses. The statistics of import clearances, however, are recorded on a *special trade* basis, i.e., clearances comprise goods entered directly for domestic consumption together with goods cleared into the domestic market from Customs warehouses.

Exports of Australian produce are goods, materials or articles which have been produced, manufactured or partly manufactured in Australia, except goods which were originally imported and have undergone only repair or minor operations which leave them essentially unchanged.

Re-exports are goods, materials or articles originally imported which are exported either in the same condition in which they were imported or after undergoing repair or minor operations which leave them essentially unchanged. 'Minor operations' include blending, packaging, bottling, cleaning, sorting, husking or shelling.

Total exports are the aggregate of exports of Australian produce and re-exports.

The statistics are not confined to goods which are the subject of a commercial transaction; generally, all goods imported into or exported from Australia are recorded. Among the items included are exports and imports on government account, including defence equipment. For exports, the value recorded for each item includes the value of the outside package, i.e., the outside package or covering in which the goods were exported. For imports prior to 1 July 1976, outside packages were included as a non-commercial transaction under Statistical Item 931.00.21; since 1 July 1976, however, the recorded value of imports includes the value of the outside package and, therefore, separate details on the value of outside packages are no longer available.

The following are excluded from overseas trade statistics:

- (a) direct transit trade, i.e., goods being transhipped or moved through Australia for purposes of transport only;
- (b) bunkers and stores supplied to foreign owned vessels and aircraft prior to departure overseas (these are shown separately as *ships' stores* statistics on page 644);
- (c) migrants' and passengers' effects exported or imported; and parcels post exports and imports of small value, for which customs entries are not required;
- (d) certain materials under intergovernmental agreements for defence and similar projects for which customs entries are not required;
- (e) vessels and aircraft engaged in the transport of passengers or goods between Australia and other countries;
- (f) vessels and aircraft purchased for use on overseas routes and any subsequent sales made of such vessels and aircraft;
- (g) fish and other sea products landed in Australia or abroad directly from the high seas by Australian vessels.
- (h) entries lodged on informal clearance documents (ICD) for values not exceeding \$250.

State

From 1 July 1978, *State* statistics for exports comprise State of origin of Australian produce and State of final shipment of re-exported goods. State of origin is defined as the State in which the final stage of production or manufacture occurs. Previously *State* was the State in which the export document was lodged with the Bureau of Customs. Because of this change, figures from 1 July 1978 are not directly comparable with those for previous periods.

For imports the State is that in which the import entry was lodged with the Bureau of Customs. The port of lodgement of the import entry is not necessarily the port of discharge of the goods or of final consumption. Goods forwarded interstate after import, whether in containers or not, are recorded as being imported at the port of lodgement of the import entry.

Statistical period

Exports. Exports are recorded statistically in the month in which the entries are both finalised by the Bureau of Customs and passed to the ABS for further processing. Regular exporters or their agents may provide details of their export shipments on a periodic rather than an individual shipment basis by submitting weekly or monthly returns. These 'periodic returns' must be submitted to the Bureau of Customs within seven days of the period in question covering all shipments during that period. All other exporters are required to report each individual shipment prior to the ship's departure. Approximately 90% of monthly export values are recorded on periodic returns. The statistical month for Customs outports (generally ports other than those at which the main Customs Office in each State is located) closes on the twenty-first of each month, whereas for mainports the statistical month is the cal-

endar month. Because of these factors export statistics for a particular month do not necessarily represent all of the commodities actually exported during that month. Analysis of past data has shown that in aggregate approximately 55% of export trade by value for a particular month reflects actual shipments during that month, 40% by value was actually exported during the previous month with the remaining 5% by value exported in earlier months. For individual commodities the percentage by value representing actual exports in a month may vary considerably.

Imports. Imports are recorded statistically in the calendar month in which the import entries were both finalised by the Bureau of Customs and passed to the ABS for further processing. Normally this is within a few days of discharge of cargo. However, import entries may be lodged early using the check-to-arrive system or may be delayed because of various validation checks before being passed on to the ABS. Because of this import statistics for a particular month do not necessarily represent entries lodged or commodities actually imported during the month in question. Analysis of past data has shown that in aggregate approximately 70% of import trade by value recorded for a particular month was actually imported during that month, 25% was actually imported during the previous month with the remaining 5% being imported in earlier months. For individual commodities the percentage by value representing actual imports in a month may vary considerably.

Valuation

Exports. Goods sold to overseas buyers before export are valued at the free-on-board (f.o.b.) Australian port of shipment equivalent of the actual price paid to the exporter. Goods shipped on consignment are valued at the f.o.b. Australian port of shipment equivalent of the current price offering for similar goods of Australian origin in the principal markets of the country to which they are dispatched for sale. The value of outside packages is included.

Imports. The recorded value is the value for duty for Customs purposes. On 1 July 1976, Australia adopted the internationally recognised Brussels Definition of Value (BDV) on a free-on-board (f.o.b.) basis (i.e. charges and expenses involved in delivering the goods from the place of exportation to the place of introduction in Australia, are excluded). The value for duty is based on the normal price i.e., the price the goods would fetch at the time when duty becomes payable on a sale in the open market between a buyer and a seller independent of each other. In practice, the basis for valuation is generally taken to be the invoice price subject to certain safeguards and adjustments where necessary. Because of the change in the basis of valuation the recorded imports figures for 1976-77 are not comparable with previous years. For details of the method of valuation used prior to 1 July 1976, see Year Book No. 61, page 330.

Leasing arrangements. The recorded value of goods exported or imported under leasing arrangements is defined according to the valuation procedures shown above and is not the value of the lease receipts or payments. However, for balance of payments purposes, large items of equipment under lease are normally excluded from export and import figures, if the lease is for 12 months or less, and therefore, from the balance of trade.

Quantity data

Where quantities are shown they are generally expressed in terms of the normal unit of quantity used in the appropriate industry and as specified in the *Australian Export and Import Commodity Classifications* (1203.0, 1204.0) published by the ABS. Quantities are not tabulated in respect of statistical items for which there is no appropriate unit of quantity (e.g. a statistical item which covers a number of commodities that cannot be recorded under a uniform unit of quantity).

Merchandise and non-merchandise trade

Total trade is divided into merchandise and non-merchandise trade in accordance with international standards recommended by the United Nations. Merchandise trade is the equivalent of total exports or imports less certain items specified as non-merchandise. Complete descriptions of commodities classified as non-merchandise are contained in the *Australian Export and Import Commodity Classifications* (1203.0, 1204.0) published by the ABS.

Excess of exports or imports

The excess of the value of exports or imports does not represent the balance of trade. The balance of trade is the excess of exports or imports on a *balance of payments* basis. Details of the adjustments (relating to coverage, timing and valuation) made to total recorded exports and imports for balance of payments purposes, are set out in the annual publication *Balance of Payments, Australia* (5303.0). Some information may be found in the section relating to the balance of payments, page 687.

Country

A country is defined as a geographical entity which trades, or has the potential to trade, with Australia in accordance with Australian Customs provisions. External territories under Australian administration *are* treated separately whilst self-governing territories and dependent territories under the administration of other countries *may* be treated as individual countries in Australian overseas trade statistics. *Exports*: for exports, *country* refers to the country to which the goods were consigned at the time of export. Where the country of consignment is not determined at the time of export, goods are recorded as exported *For orders* and in those cases where it was found to be impossible to determine the destination, as *Destination unknown*. *Imports*: for imports, *country* refers to the country of origin of the goods which is defined as the country of production for Customs purposes.

Commodity classification

Exports and imports are classified according to the *Australian Export Commodity Classification* (AECC) and the *Australian Import Commodity Classification* (AICC) which, from 1 July 1978 have been based on the second revision of the *Standard International Trade Classification*.

Because of the changes to the AECC and AICC between 1977-78 and 1978-79, it has not been possible to derive exactly comparable figures for periods prior to 1 July 1978 and footnote (a) in the table on page 633 indicates where these statistics have been estimated.

Overseas trade statistics

Total overseas trade

The following table shows the total trade of Australia with overseas countries from 1974-75 to 1979-80. For details relating to years prior to 1973-74, see Year Book No. 61, page 333.

OVERSEAS TRADE

(\$m)

Year	Exports	Imports	Excess of exports (+)
			or imports (-)
1974-75	8,726	8,080	+ 646
1975-76	9,640	8,241	+1,399
1976-77	11,652	10,410	+1,241
1977-78	12,245	11,167	+1,078
1978-79	14,243	13,752	+ 491
1979-80	18,887	16,216	+2,671

Plate 47 below shows the overseas trade of Australia from 1961-62 to 1979-80.

OVERSEAS TRADE 1961-62 TO 1979-80

\$ million

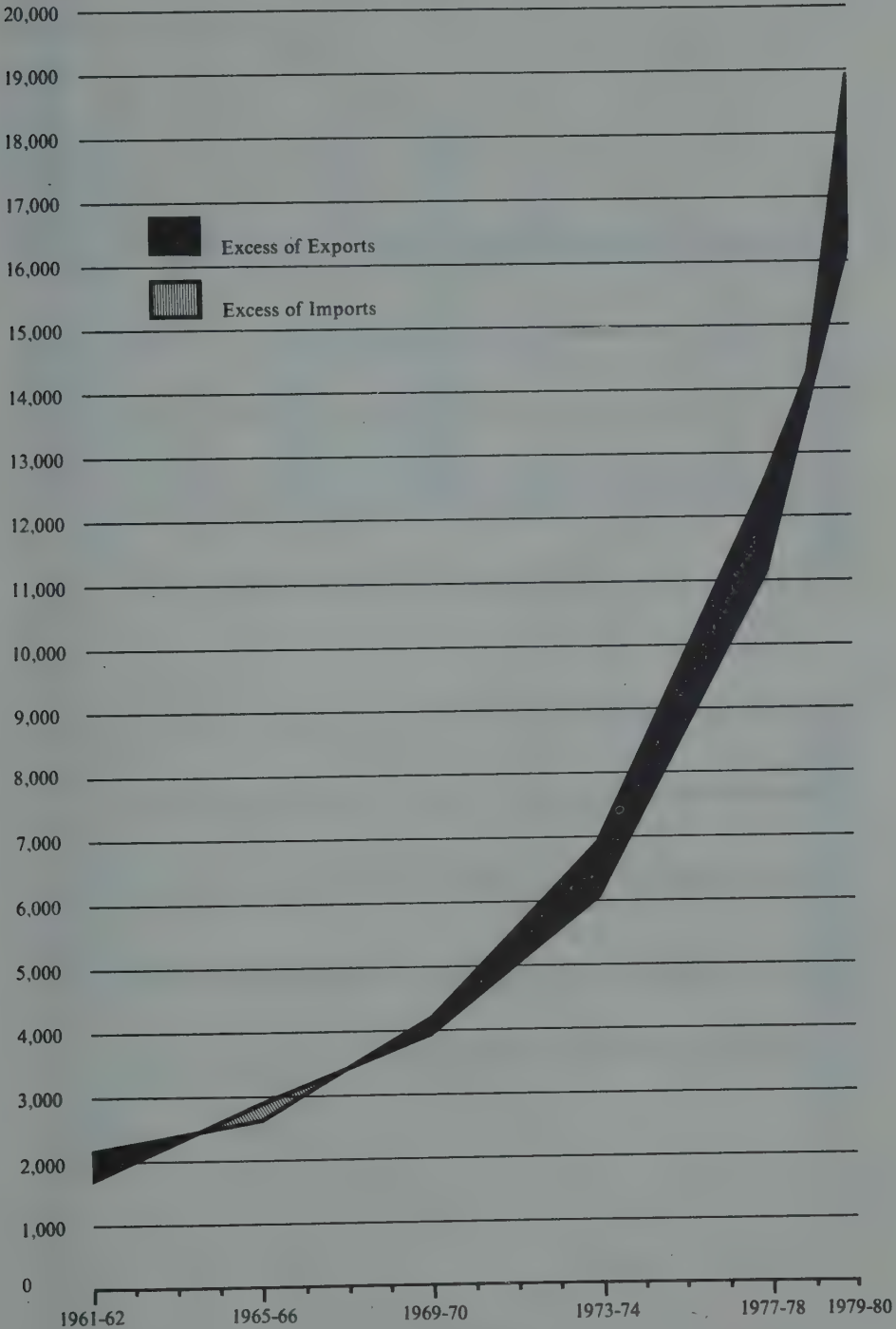


PLATE 47

The following table shows particulars of merchandise and non-merchandise trade for recent years.

MERCHANDISE AND NON-MERCHANDISE TRADE

(\$'000)

EXPORTS

Year	Merchandise			Non-merchandise			Total
	Australian produce	Re-exports	Total	Australian produce	Re-exports	Total	
1974-75	8,342,085	198,510	8,540,595	114,782	70,398	185,180	8,725,774
1975-76	9,235,698	163,768	9,399,466	103,910	136,207	240,117	9,639,583
1976-77	11,291,763	197,284	11,489,046	89,765	72,780	162,545	11,651,591
1977-78	11,770,562	254,724	12,025,286	127,498	92,498	219,996	12,269,681
1978-79	13,697,709	374,888	14,072,597	86,780	83,371	170,151	14,242,747
1979-80	18,216,345	406,941	18,623,286	108,702	150,311	259,013	18,882,299

IMPORTS

Year	Merchandise	Non-merchandise	Total
1974-75	7,960,683	119,170	8,079,853
1975-76	8,153,421	87,172	8,240,593
1976-77	10,330,210	80,435	10,410,645
1977-78	11,079,677	87,075	11,166,752
1978-79	13,638,756	113,089	13,751,845
1979-80	16,029,816	186,573	16,216,389

VALUE OF EXPORTS AND IMPORTS PROPORTIONS BY COUNTRY, 1975-76 TO 1979-80

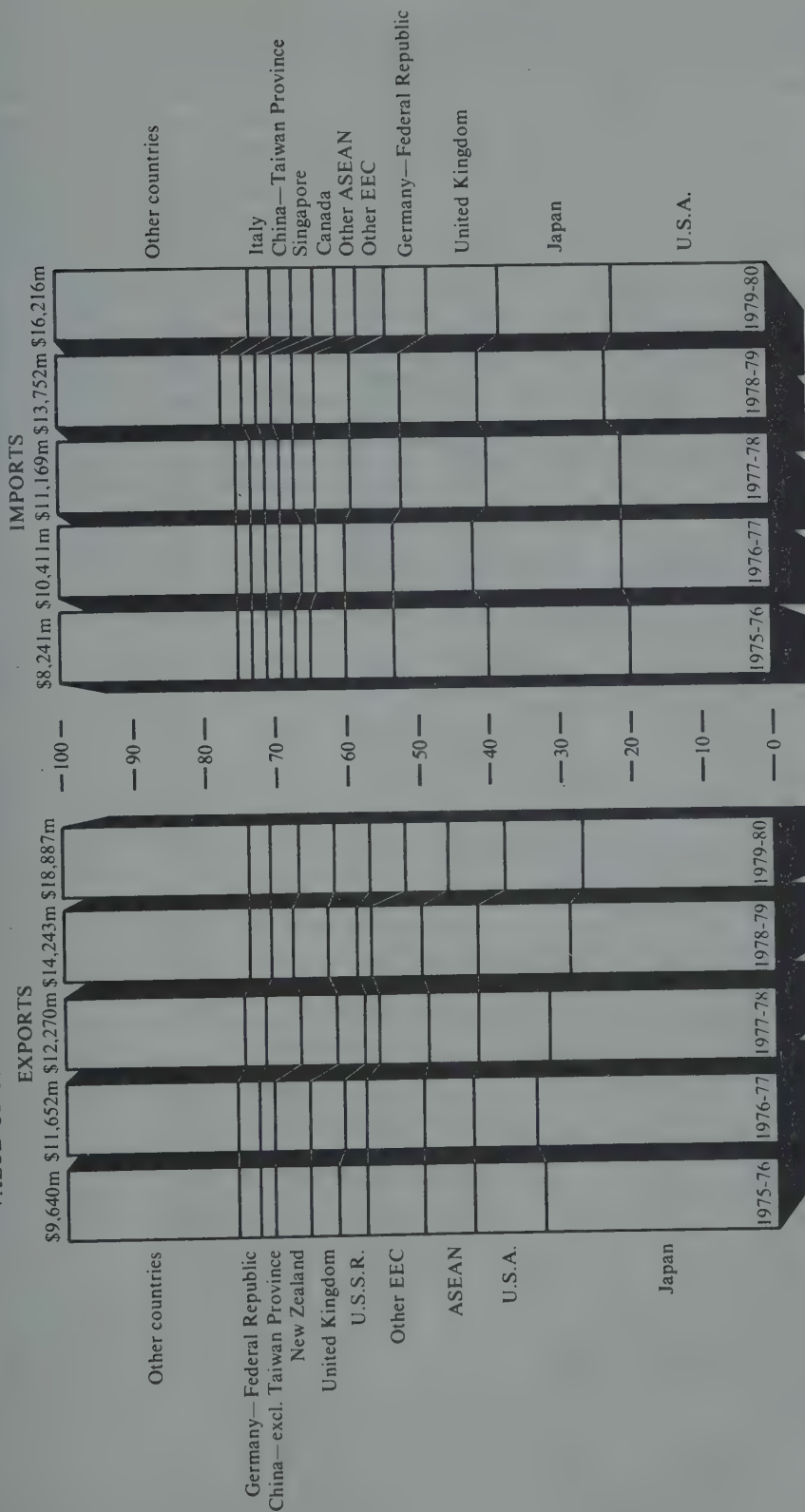


PLATE 48

Classified summary of Australian overseas trade

The following table shows exports and imports according to divisions of the *Australian Export and Import Commodity Classifications* (based on the *Standard International Trade Classification* Revision 2).

EXPORTS AND IMPORTS: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS

(\$'000)

Division No.	Description	Exports			Imports		
		1977-78	1978-79	1979-80	1977-78	1978-79	1979-80
00	Live animals chiefly for food	104,386	120,074	209,716	16,805	17,560	25,496
01	Meat and meat preparations (a)	1,118,859	1,712,572	1,740,406	2,784	4,086	9,076
02	Dairy products and birds' eggs (a)	198,993	219,115	264,013	21,569	25,329	33,200
03	Fish and fish preparations (a)	144,467	194,129	242,142	120,247	125,994	154,310
04	Cereals and cereal preparations	1,350,367	1,174,210	2,893,438	14,955	14,878	16,583
05	Fruit and vegetables (a)	126,017	157,510	210,843	92,157	91,398	114,506
06	Sugar, preparations, honey (a)	547,693	463,749	700,433	10,248	13,581	9,631
07	Coffee, tea, cocoa and spices (a)	21,750	21,350	22,444	220,324	205,885	242,998
08	Feeding stuff for animals (a)	48,899	50,352	25,742	16,061	14,141	26,491
09	Miscellaneous food preparations (a)	9,297	10,996	14,177	16,087	20,031	23,172
11	Beverages	18,154	21,856	28,077	59,573	71,357	74,402
12	Tobacco and tobacco manufactures	8,424	7,768	13,299	62,712	59,736	67,628
21	Hides, skins and furskins, raw	258,506	374,238	377,503	1,885	2,251	2,602
22	Oil seeds, oil nuts and oil kernels	3,748	23,686	35,584	9,966	2,686	7,264
23	Crude rubber (including synthetic and reclaimed)	3,144	4,258	2,904	47,386	58,843	77,560
24	Wood, timber and cork (a)	92,692	108,348	169,141	125,959	155,897	195,029
25	Pulp and waste paper	504	622	1,417	57,578	71,277	92,292
26	Textile fibres and their waste (a)	1,159,856	1,468,343	1,606,534	68,598	73,953	89,841
27	Crude fertilisers and minerals (except coal, petroleum and precious stones)	72,088	103,348	83,064	120,021	148,378	162,336
28	Metaliferous ores and metal scrap (a)	2,330,157	2,478,405	3,244,042	20,200	18,137	32,410
29	Crude animal and vegetable materials n.e.s. (a)	34,609	36,653	47,261	26,246	30,922	40,825
32	Coal, coke and briquettes (a)	1,488,646	1,532,648	1,690,165	1,938	3,466	4,060
33	Petroleum and petroleum products (a)	241,658	315,636	426,541	1,160,369	1,136,500	2,092,459
34	Petroleum gases and other gaseous hydrocarbons	(b)	(b)	(b)	174	228	274
41	Animal oils and fats	100,365	123,601	91,351	608	733	553
42	Fixed vegetable oils and fats	1,957	2,356	1,504	56,676	55,850	62,933
43	Animal and vegetable oils, fats and waxes, processed	6,179	7,928	6,890	8,583	9,290	17,725
51	Chemical elements and compounds (a)	27,906	37,944	46,104	262,818	325,917	486,360
52	Mineral tar and crude chemicals from coal, petroleum and natural gas (a)	33,744	48,580	74,206	125,859	138,772	152,708
53	Dyeing, tanning and colouring materials	15,979	19,677	21,649	54,845	68,951	84,355
54	Medicinal and pharmaceutical products	47,239	65,173	70,188	111,517	130,704	152,371
55	Essential oils and perfume materials; toilet and cleansing preparations	18,344	24,744	28,788	51,467	68,404	83,326
56	Fertilisers, manufactured (a)	1,216	1,987	5,491	16,701	24,615	32,125
57	Explosives and pyrotechnic products	2,561	4,839	5,865	8,191	7,564	10,619
58	Plastic materials, regenerated cellulose and artificial resins (a)	32,141	50,767	59,195	230,316	280,706	372,021
59	Chemical materials, n.e.s. (a)	40,957	54,448	68,252	128,251	155,166	204,331
61	Leather, leather manufacturers, n.e.s. and dressed furskins	26,670	45,755	42,826	23,571	36,208	42,547
62	Rubber manufacturers, n.e.s.	6,544	6,532	11,806	145,776	155,557	200,065
63	Wood and cork manufactures (excluding furniture) (a)	3,691	5,190	7,386	52,247	64,193	78,548
64	Paper, paperboard and manufactures (a)	25,004	29,958	50,566	283,618	345,618	420,014
65	Textile yarn, fabrics, made-up articles (a)	68,344	88,645	108,722	680,980	831,295	953,948
66	Non-metallic mineral manufactures n.e.s.	64,405	116,666	124,697	242,534	274,160	336,219
67	Iron and steel	462,603	592,521	606,844	236,156	274,220	337,378
68	Non-ferrous metals (a)	578,153	792,620	1,250,606	48,332	67,461	95,590
69	Manufactures of metal, n.e.s. (a)	99,840	120,294	159,306	289,716	358,789	436,342
71	Machinery, other than electric (a)	29,169	30,173	38,620	337,992	440,465	504,033
72	Electrical machinery and apparatus (a)	113,659	126,906	156,341	632,151	826,326	889,882
73	Transport equipment (a)	16,173	16,625	20,444	93,225	138,897	128,648
74	General industrial machinery and equipment, n.e.s. and machine parts, n.e.s.	89,821	105,120	126,629	546,931	710,749	784,540
75	Office machines and automatic data processing equipment	33,013	41,010	46,354	378,168	489,228	499,110
76	Telecommunications and sound recording and reproducing apparatus and equipment	15,635	21,184	27,184	315,115	383,780	416,905

For footnotes see end of table.

EXPORTS AND IMPORTS: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS—*continued*

(\$'000)

Division No.	Description	Exports			Imports		
		1977-78	1978-79	1979-80	1977-78	1978-79	1979-80
77	Electrical machinery, apparatus and appliances, n.e.s. and electrical parts thereof	64,738	63,350	86,556	536,282	655,729	708,352
78	Road vehicles (including air cushion vehicles)	92,608	136,000	159,840	1,067,475	1,411,912	1,409,008
79	Other transport equipment	92,242	132,674	196,033	239,226	674,038	314,278
81	Sanitary, plumbing, heating and lighting fixtures and fittings	1,664	3,188	4,849	24,013	30,256	37,753
82	Furniture	2,797	5,202	7,759	59,296	70,734	78,316
83	Travel goods, handbags, etc.	404	1,117	1,090	32,221	42,091	50,648
84	Clothing and accessories; articles of knitted or crocheted fabric	10,374	13,787	22,531	267,921	280,877	290,539
85	Footwear	1,662	2,877	3,867	85,760	93,997	106,050
87	Professional, scientific and controlling instruments and apparatus, n.e.s.	44,707	58,458	75,790	197,708	250,252	290,624
88	Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks	47,414	63,821	83,070	210,716	270,235	311,544
89	Miscellaneous manufactured articles	72,319	79,882	117,319	580,794	703,394	840,079
9A	Commodities and transactions not classified according to kind(c)	277,923	331,136	562,751	126,579	125,108	214,985
	<i>Total merchandise</i>	<i>12,053,080</i>	<i>14,072,597</i>	<i>18,628,154</i>	<i>11,084,176</i>	<i>13,638,756</i>	<i>16,029,818</i>
9B	Non-merchandise	216,601	170,151	259,013	84,758	113,089	186,572
	Total	12,269,681	14,242,747	18,887,167	11,168,934	13,751,845	16,216,390

(a) Due to changes in the classification from 1 July 1978, the 1977-78 statistics have been estimated, see page 626. (b) Included in Division 9A. (c) Includes Division 34 (Exports only).

EXPORT OF MAJOR COMMODITIES

Commodity	Unit of quantity	Quantity			Value (\$'000)		
		1977-78	1978-79	1979-80	1977-78	1978-79	1979-80
Aluminium and alloys, unworked . . .	tonnes	75,921	81,111	55,048	69,270	82,323	68,448
Aluminium oxide and hydroxide . . .	"	6,352,217	6,408,284	7,235,994	666,458	719,787	970,865
Barley	"	1,325,176	1,744,453	2,962,437	121,834	149,547	354,295
Butter	"	31,678	34,490	23,125	43,946	49,446	38,602
Cars, passenger motor, assembled and unassembled		—	—	—	32,115	54,022	71,713
Cheese	tonnes	44,089	51,503	61,134	55,497	68,974	94,390
Coal (anthracite, bituminous and sub-bituminous) (except briquettes)	"	37,861,714	39,084,987	42,556,277	1,481,774	1,523,953	1,677,420
Copper, ore and concentrates	"	105,833	131,697	157,481	28,365	43,899	88,560
Copper, refined, unworked	"	66,092	53,677	47,953	70,797	76,817	93,821
Crustaceans and molluscs (except canned or bottled)		—	—	—	132,121	180,824	210,882
Flour (wheaten) plain white	tonnes	128,649	68,778	49,827	21,483	13,553	11,613
Fruit, fresh and nuts, fresh or dried	"	91,540	155,164	176,688	32,472	93,180	117,513
Fruit, preserved and fruit preparations		—	—	—	45,540	50,006	70,496
Hides, bovine and equine (except calf and kip skins)	tonnes	186,370	183,357	131,547	128,210	224,023	181,202
Iron and steel ingots and other primary forms	"	1,603,580	1,248,270	679,336	202,326	194,461	138,164
Iron ore and concentrates (except roasted iron pyrites)	"	74,690,551	79,584,850	78,878,062	920,923	967,697	1,076,395
Iron, pig and cast	"	519,176	785,315	618,818	39,583	70,546	76,208
Lead and lead alloys (including silver-lead) unworked	"	305,272	322,278	355,686	193,865	260,084	548,337
Meat, fresh, chilled or frozen, beef—boneless	"	708,908	748,606	560,563	782,051	1,264,089	1,272,241
Meat, fresh, chilled or frozen—bovine animals, other	"	46,166	84,850	24,963	43,871	104,079	55,246
Meat, fresh, chilled or frozen—edible offals	"	61,469	66,944	51,568	48,796	77,714	77,465
Meat, fresh, chilled or frozen—sheep, lambs and goats	"	192,424	152,213	189,970	184,176	191,044	239,405
Milk and cream	"	114,214	100,046	122,386	84,518	83,675	118,008
Nickel and nickel alloys, unworked	n.p.	n.p.	n.p.	n.p.	25,442	92,934	125,362
Nickel matte and speiss	n.p.	n.p.	n.p.	n.p.	161,916	128,430	291,666
Petroleum products		—	—	—	223,820	305,882	419,400
Rice	tonnes	277,459	241,236	457,295	66,634	66,153	129,928
Skins, sheep and lamb, with wool on	"	76,445	73,244	77,164	106,369	110,077	149,280
Sorghum, unmilled	"	384,528	516,329	580,411	35,457	45,507	59,769
Sugar—from cane (except icing sugar)	"	2,477,896	1,839,822	2,201,007	536,640	448,198	666,786
Titanium and zirconium ore and concentrates (except beneficiated ilmenite)	"	1,695,686	1,708,774	1,977,551	110,706	112,486	146,187
Wheat (including spelt) and maslin, unmilled	"	10,948,926	6,823,720	14,840,344	1,011,078	794,248	2,178,068
Wood chips	"	3,131,652	3,349,170	4,312,988	82,421	93,592	127,994
Wool, carbonised—shorn and skin	"	10,533	12,016	12,000	34,003	43,236	48,021
Wool, carded or combed (tops and other)	"	9,973	11,164	12,495	39,759	49,464	63,935
Wool, greasy	"	493,605	565,806	504,078	993,476	1,226,641	1,282,600
Wool, washed and scoured—shorn, skin and boiled	"	35,366	46,251	49,470	112,603	153,107	189,052
Zinc, ore and concentrates	"	389,175	452,520	460,180	44,725	56,703	77,443
Zinc and zinc alloys, unworked	"	184,290	194,424	173,761	96,078	111,387	115,844
Total major commodities		—	—	—	9,111,113	10,381,788	13,722,624
Total Exports		—	—	—	12,269,681	14,242,747	18,887,167

Exports, by industrial group

The following table is designed to show fluctuations in exports of Australian produce dissected according to the main industry of the exports' origin, although any such classification is necessarily somewhat arbitrary.

EXPORTS BY INDUSTRIAL GROUP

<i>Industrial group</i>	<i>Value (\$m)</i>			<i>Proportion of total exports (per cent)</i>		
	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>
Agriculture, horticulture and viticulture—						
Unprocessed	1,341.6	1,221.2	2,980.9	10.9	8.6	15.8
Processed	713.6	636.7	943.5	5.8	4.5	5.0
Total	2,055.2	1,858.0	3,924.4	16.8	13.0	20.8
Pastoral—						
Unprocessed	2,415.8	3,359.8	3,518.4	19.7	23.6	18.6
Processed	397.1	503.8	537.7	3.2	3.5	2.8
Total	2,812.9	3,863.6	4,056.1	22.9	27.1	21.5
Dairy and farmyard—						
Unprocessed	15.3	20.7	29.3	0.1	0.1	0.2
Processed	194.3	211.1	253.2	1.6	1.5	1.3
Total	209.6	231.9	282.6	1.7	1.6	1.5
Mines and quarries (except gold)—						
Unprocessed	2,976.6	3,125.5	3,351.1	24.3	21.9	17.7
Processed	584.0	762.8	1,151.0	4.8	5.4	6.1
Total	3,560.7	3,888.3	4,502.1	29.0	27.3	23.8
Fisheries—						
Unprocessed	141.4	201.6	241.6	1.2	1.4	1.3
Processed	11.5	10.4	13.3	0.1	0.1	0.1
Total	152.8	212.1	254.9	1.2	1.5	1.3
Forestry—						
Unprocessed	0.4	0.6	1.4	0.0	0.0	0.0
Processed	12.7	18.2	23.7	0.1	0.1	0.1
Total	13.1	18.8	25.1	0.1	0.1	0.1
Total primary produce—						
Unprocessed	6,891.2	7,929.4	10,122.6	56.2	55.7	53.6
Processed	1,913.2	2,143.1	2,922.4	15.6	15.0	15.5
Total	8,804.3	10,072.5	13,045.1	71.8	70.7	69.1
Manufacturers	2,682.6	3,200.5	4,177.3	21.9	22.5	22.1
Refined petroleum oils	232.1	286.5	384.1	1.9	2.0	2.0
Gold	44.4	80.7	110.8	0.4	0.6	0.6
Unclassified	159.0	144.3	504.0	1.3	1.0	2.7
Total Australian produce	11,922.4	13,784.5	18,221.2	97.2	96.8	96.5
Re-exports	347.3	458.3	666.0	2.8	3.2	3.5
Total	12,269.7	14,242.7	18,887.2	100.0	100.0	100.0

The items enumerated indicate how arbitrary is the line necessarily drawn between primary produce and manufactures in any classification of this kind. The value of processed primary products exported includes some element of value added by the simpler processes of manufacture, while the value shown for manufactures exported necessarily includes the value of raw materials (primary produce) used in those manufactures.

Exports and imports by broad economic categories, 1978-79 and 1979-80

The following table shows exports and imports of merchandise classified according to the nineteen categories of the United Nations' Classification, Broad Economic Categories (BEC). The BEC attempts to classify external trade statistics for the purposes of general economic analysis according to the main end use of the commodities traded.

Broad Economic Category	Exports		Imports	
	1978-79		1979-80	
	\$million	Proportion to total	\$million	Proportion to total
FOOD AND BEVERAGES	4,125.0	29.0	6,324.6	33.5
Primary	1,426.0	10.0	3,223.4	17.1
Mainly for industry	1,128.9	7.9	2,858.7	15.1
Mainly for household consumption	297.1	2.1	364.7	1.9
Processed	2,698.9	19.0	3,101.3	16.4
Mainly for industry	580.7	4.1	801.3	4.2
Mainly for household consumption	2,118.2	14.9	2,300.0	12.2
INDUSTRIAL SUPPLIES				
n.e.s.	6,896.9	48.4	8,495.8	45.0
Primary	3,766.5	26.5	4,303.8	22.8
Processed	3,130.3	22.0	4,192.0	22.2
FUELS AND LUBRICANTS	1,832.2	12.9	2,105.8	11.1
Primary	1,534.1	10.8	1,685.2	8.9
Processed	298.1	2.1	420.6	2.2
Motor spirit	47.5	0.3	73.9	0.4
Other	250.7	1.8	346.7	1.8
CAPITAL GOODS (except transport equipment), and parts and accessories thereof	443.0	3.1	549.5	2.9
Capital goods (except transport equipment)	266.6	1.9	336.9	1.8
Parts and accessories	176.4	1.2	212.6	1.1
TRANSPORT EQUIPMENT and parts and accessories thereof	290.0	2.0	387.6	2.1
Passenger motor cars (a)	14.2	0.1	19.4	0.1
Other	107.4	0.8	148.2	0.8
Industrial (a)	95.4	0.7	130.1	0.7
Non-industrial	12.0	0.1	18.1	0.1
Parts and accessories	168.4	1.2	219.9	1.2
CONSUMER GOODS n.e.s.	233.0	1.6	313.2	1.7
Durable	56.3	0.4	95.4	0.5
Semi-durable	47.7	0.3	62.2	0.3
Non-durable	128.9	0.9	155.7	0.8
GOODS n.e.s. (b)	252.6	1.8	451.6	2.4
Total merchandise	14,072.6	98.8	18,628.2	98.6
Non-merchandise	170.2	1.2	259.0	1.4
Total	14,242.7	100.0	18,887.2	100.0

(a) Unassembled road motor vehicles are included with parts and accessories of transport equipment. (b) For exports, includes petroleum gases.

Direction of Overseas Trade*Exports and imports, by country of consignment or of origin*

The following table shows the value and percentage of Australian exports and imports according to principal country of consignment or origin. The proportions of Australian exports and imports by country of origin or consignment are shown graphically on Plate 48 on page 629.

**AUSTRALIAN EXPORTS AND IMPORTS, VALUE BY COUNTRY OR COUNTRY GROUP OF
CONSIGNMENT OR ORIGIN**
(\$'000)

Country	Exports			Imports		
	1977-78	1978-79	1979-80	1977-78	1978-79	1979-80
Argentina	41,014	45,649	91,399	4,602	3,781	6,853
Associations of South-East Asian Nations—						
Indonesia	196,265	217,582	293,145	84,096	99,239	241,793
Malaysia	214,796	330,736	427,855	120,454	152,549	185,820
Philippines	130,492	165,767	160,811	56,821	76,948	82,565
Singapore, Republic of	240,721	264,060	393,401	264,863	277,683	442,259
Thailand	74,497	112,805	141,221	30,623	35,438	53,453
Total ASEAN	856,771	1,090,951	1,416,432	556,857	641,857	1,005,890
Austria	9,122	5,712	3,996	34,030	41,582	43,679
Bahrain	38,031	40,897	59,606	75,328	96,404	135,481
Bangladesh	35,088	40,908	109,081	9,516	11,705	25,102
Brazil	22,089	20,617	24,963	48,245	67,926	82,175
Canada	280,191	274,362	338,641	276,392	383,486	446,057
China—excl. Taiwan Province	580,975	437,570	845,456	113,344	141,638	199,708
— Taiwan Province only	182,569	298,713	323,257	246,847	337,543	440,930
Egypt, Arab Republic of	190,595	193,971	327,903	115	92	79
European Economic Community—						
Belgium-Luxembourg	116,501	147,276	200,571	110,442	100,454	120,719
Denmark	7,223	17,210	19,779	40,409	64,870	58,987
France	273,093	297,401	337,810	179,714	249,669	306,889
Germany, Federal Republic of	394,871	434,103	495,322	746,436	1,031,278	1,021,416
Ireland	3,680	3,755	6,237	22,835	38,330	44,101
Italy	259,290	358,933	427,074	268,523	372,739	420,499
Netherlands	182,582	182,786	234,596	164,523	174,915	190,330
United Kingdom	482,095	571,310	951,531	1,280,991	1,492,376	1,647,638
Total EEC	1,719,334	2,012,773	2,672,919	2,813,873	3,524,631	3,810,579
Fiji	77,656	99,514	147,833	10,658	10,839	18,433
Finland	4,608	5,391	6,900	57,979	75,104	109,074
Hong Kong	215,484	318,227	279,376	265,248	331,554	380,522
India	69,807	112,581	173,449	89,655	104,019	119,299
Iran	179,397	115,904	251,815	82,645	38,932	83,688
Iraq	70,023	93,335	226,042	117,554	94,895	150,612
Japan	3,896,096	4,108,961	5,071,828	2,114,232	2,426,240	2,526,638
Korea, Republic of	265,103	448,314	406,038	120,258	135,693	138,486
Kuwait	64,525	75,848	97,165	194,715	159,569	311,065
New Zealand	584,955	747,377	864,772	360,108	424,850	546,698
Norway	37,817	35,081	51,341	24,171	35,481	41,153
Pakistan, Islamic Republic of	44,320	66,358	69,690	5,840	10,797	17,065
Papua New Guinea	237,091	293,691	369,064	73,842	69,608	86,459
Poland	65,351	93,589	108,637	8,116	10,822	16,269
Romania	44,899	37,887	29,600	12,734	5,110	6,559
Saudi Arabia	87,031	125,956	220,501	355,220	359,497	625,607
South Africa, Republic of	65,654	67,547	95,087	58,051	84,877	105,771
Spain	57,338	54,454	56,717	42,802	53,964	54,036
Sri Lanka	21,433	26,474	34,971	21,210	13,561	15,930
Sweden	46,247	58,584	71,994	175,944	232,944	307,920
Switzerland	9,793	11,927	14,035	131,627	178,649	160,360
United Arab Emirates	32,953	39,751	85,285	24,968	64,428	117,212
United States of America	1,289,068	1,789,653	2,055,833	2,319,932	3,225,597	3,576,250
U.S.S.R.	246,706	264,902	979,255	5,704	7,597	66,406
Yugoslavia	59,801	76,341	63,620	6,863	8,473	11,028
Other countries	515,589	573,099	752,948	304,325	332,976	422,526
'For Orders' and Country of origin or destination unknown	25,160	39,883	89,719	5,380	5,118	4,792
Total	12,269,681	14,242,747	18,887,167	11,168,934	13,751,845	16,216,390

Exports and Imports, by country of consignment and origin, and by description

The following table shows details of exports to and imports from principal countries, classified according to divisions of the Australian Export and Import Commodity Classifications.

**EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN
EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1979-80**
(**\$'000**)

Division No.	Description	ASEAN		Belgium- Luxembourg		Canada	
		Exports	Imports	Exports	Imports	Exports	Imports
00	Live animals chiefly for food	18,924	-	-	-	186	2,464
01	Meat and meat preparations	38,706	1	1,828	8	67,662	50
02	Dairy products and birds' eggs	50,619	37	-	57	93	2
03	Fish and fish preparations	3,123	-	962	76	232	11,073
04	Cereal grains and cereal preparations	261,333	22,128	2,668	30	55	254
05	Fruit and vegetables	30,489	528	3,338	325	25,444	4,481
06	Sugar and sugar preparations and honey	97,367	8,427	132	10	92,917	178
07	Coffee, tea, cocoa, spices and manufactures thereof	7,529	31	10	149	44	26
08	Feeding-stuff for animals (except unmilled cereals)	3,560	64,285	-	907	-	-
09	Miscellaneous preparations chiefly for food	3,359	8,630	-	69	21	874
11	Beverages	2,411	2,229	9	63	2,066	120
12	Tobacco and tobacco manufactures	148	37	-	4	-	848
21	Hides, skins and furskins, raw	710	1,828	758	-	153	42
22	Oil-seeds, oil nuts and oil kernels	301	8	1,605	-	10	109
23	Crude rubber (including synthetic and reclaimed)	437	799	-	2,911	-	366
24	Wood, timber and cork	1,161	50,874	5,749	-	25	58,269
25	Pulp and waste paper	110	64,668	-	-	-	23,697
26	Textile fibres and their waste	15,333	-	48,055	122	3,701	7,428
27	Crude fertilisers and crude minerals (except coal, petroleum and precious stones)	11,084	879	199	171	73	34,011
28	Metalliferous ores and metal scrap	107,192	1,477	35,251	-	113,675	13,621
29	Crude animal and vegetable materials, n.e.s.	1,745	1,715	838	19	2,030	403
32	Coal, coke and briquettes	2,701	3,365	10,718	-	-	1,131
33	Petroleum and petroleum products	97,264	-	-	604	74	2,164
34	Petroleum gases and other gaseous hydrocarbons	(a)	505,443	(a)	-	(a)	2
41	Animal oils and fats	8,083	22	56	-	62	-
42	Fixed vegetable oils and fats	319	22,655	-	11	-	2,766
43	Animal and vegetable oils and fats, processed and waxes of animal or vegetable origin	1,912	6,179	23	5	98	-
51	Chemical elements and compounds	6,781	804	47	9,453	18	5,109
52	Mineral tar and crude chemicals from coal, petroleum and natural gas	20,422	2,175	11,529	1,920	163	3,728
53	Dyeing, tanning and colouring materials	8,002	202	209	1,122	399	984
54	Medicinal and pharmaceutical products	9,623	963	25	2,055	1,182	571
55	Essential oils and perfume materials; toilet, polishing and cleansing preparations	6,724	450	10	309	17	542
56	Fertilisers, manufactured	1,492	-	-	537	1	13,624
57	Explosives and pyrotechnic products	2,571	4	-	-	-	204
58	Plastic materials, regenerated cellulose and artificial resins	18,032	3,078	115	3,613	41	16,425
59	Chemical materials and products, n.e.s.	7,582	367	2	1,614	900	2,242
61	Leather, leather manufactures, n.e.s., and dressed furskins	1,509	278	6	601	426	102
62	Rubber manufactures, n.e.s.	1,225	4,985	205	977	132	1,574
63	Wood and cork manufactures (except furniture)	1,224	15,174	-	36	12	1,182
64	Paper, paperboard and manufactures thereof	15,892	1,244	46	3,200	62	55,326
65	Textile yarn, fabrics, made-up articles and related products	5,609	41,498	241	6,784	3,462	35,973
66	Non-metallic mineral manufactures, n.e.s.	26,155	10,327	1,277	16,651	4,408	2,439
67	Iron and steel	95,317	4,685	10,033	1,017	3,923	1,766
68	Non-ferrous metals	151,743	6,461	57,798	855	88	4,677
69	Manufactures of metals, n.e.s.	29,939	8,706	902	5,421	2,407	12,766
71	Machinery (except electric)	4,754	1,860	273	598	1,330	5,874
72	Electric machinery, apparatus and appliances	31,478	3,295	1,868	13,646	1,294	26,975
73	Transport equipment	6,742	850	36	372	74	3,627
74	General industrial machinery and equipment, n.e.s. and machine parts, n.e.s.	25,682	15,344	1,768	15,670	1,646	12,491
75	Office machines and automatic data processing equipment	4,093	2,398	83	2,336	483	14,548
76	Telecommunications and sound recording and reproducing apparatus and equipment	4,523	12,316	32	5,855	131	2,476
77	Electrical machinery, apparatus and appliances, n.e.s. and electrical parts thereof	15,610	10,160	171	6,318	258	13,959
78	Road vehicles (including air cushion vehicles)	16,229	5,491	28	335	443	13,921
79	Other transport equipment	25,690	3,720	-	5	645	1,779
81	Sanitary, plumbing, heating and lighting fixtures and fittings	305	549	82	22	7	960
82	Furniture	866	11,544	1	63	110	1,512
83	Travel goods, handbags and similar articles	228	4,107	-	10	12	106
84	Clothing and clothing accessories; articles of knitted or crocheted fabric	1,556	24,280	13	120	267	1,107

For footnotes see end of table.

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN
EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1979-80—continued

(\$'000)

Division No. " Description	ASEAN		Belgium- Luxembourg		Canada	
	Exports	Imports	Exports	Imports	Exports	Imports
85 Footwear	280	7,269	-	-	3	264
87 Professional, scientific and controlling instru- ments and apparatus, n.e.s.	7,843	1,794	224	511	1,730	4,039
88 Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks	20,790	2,700	220	9,061	413	4,786
89 Miscellaneous manufactured articles	13,232	26,480	512	2,787	1,150	11,441
9A Commodities and transactions of merchandise trade, not elsewhere classified (b)	13,966	3,406	235	540	1,426	1,618
Total merchandise	1,369,632	1,005,212	200,190	119,954	337,687	445,095
9B Commodities and transactions not included in merchandise trade	46,800	678	381	765	954	961
Grand total	1,416,432	1,005,890	200,571	120,719	338,641	446,057

(a) Included in Division 9A. (b) Includes Division 34 (Exports only).

Div. No.	China-excl. Taiwan Province		China-Taiwan Province only		EEC		France		Germany, Federal Republic of	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
00	-	-	86	-	318	6,741	46	25	7	-
01	168	119	18,039	-	81,884	2,258	11,016	48	7,568	22
02	5	-	17,896	6	1,958	13,565	-	1,370	446	1,849
03	-	7,166	621	3,411	13,719	14,131	3,504	68	786	1,420
04	457,373	543	38,047	217	20,805	6,734	382	85	5,602	1,137
05	188	3,157	1,059	8,207	70,297	10,561	6,196	298	17,591	752
06	73,374	77	2,265	109	6,527	4,047	71	38	1,717	168
07	-	3,907	21	112	148	31,610	-	211	-	3,107
08	7	-	420	106	482	6,779	-	1,306	424	1,968
09	-	394	53	841	618	5,543	-	527	1	578
11	26	43	99	-	2,755	59,298	44	12,113	214	5,921
12	-	-	-	-	276	16,339	-	136	-	69
21	4,097	422	6,885	-	222,449	562	106,483	47	33,265	21
22	-	26	58	11	18,541	47	2,306	-	77	8
23	-	-	237	141	-	6,214	-	1,007	-	352
24	-	10	2,676	98	13,699	751	848	57	996	44
25	-	-	-	-	10	102	-	4	-	-
26	49,996	1,024	46,224	1,966	474,143	10,918	97,747	121	105,551	1,367
27	-	1,338	5,236	16	5,110	9,157	23	85	292	382
28	51,383	625	42,701	428	480,711	2,073	25,493	107	222,874	668
29	327	3,232	759	482	15,562	7,477	365	1,364	4,636	712
32	-	-	59,306	1	233,466	876	46,831	-	21,896	796
33	-	14,262	136	135	244	36,682	-	189	211	2,438
34	(a)	-	(a)	-	(a)	130	(a)	83	(a)	-
41	21,595	-	2,305	-	6,796	60	1,792	1	18	-
42	-	1,057	-	3	68	4,404	-	89	59	985
43	39	7	573	-	793	8,284	97	9	307	2,752
51	-	4,043	3,011	1,543	3,815	155,020	189	11,279	33	47,293
52	2,870	3,729	6,303	908	12,347	51,494	1	5,301	342	27,131
53	42	276	394	46	958	44,572	20	2,326	270	16,909
54	102	1,727	1,062	705	10,927	86,770	189	3,328	1,004	22,141
55	-	470	152	183	596	37,665	20	15,838	220	5,761
56	-	-	-	-	5	2,587	-	6	-	1,087
57	-	1,107	-	309	690	5,090	-	98	-	312
58	5	670	705	11,623	681	138,545	131	8,202	166	37,795
59	10	3,513	172	94	1,878	73,870	165	6,058	155	12,738
61	1,529	240	830	3,165	21,425	9,901	84	471	762	1,246
62	-	100	56	9,354	2,327	57,815	6	10,526	1,506	9,277
63	-	616	722	24,469	362	6,330	14	413	172	908
64	2,554	1,048	144	830	1,984	72,397	241	3,609	12	17,023
65	1,494	70,710	7,522	55,469	7,004	150,760	186	10,518	2,357	25,650
66	173	5,439	823	9,422	111,045	138,952	1126	12,253	3,582	19,592
67	123,898	190	15,393	1,917	56,563	46,873	45	6,146	776	12,728
68	37,852	150	27,318	569	648,165	25,045	19,286	1,183	31,205	5,376
69	13,905	3,295	1,186	32,205	8,948	131,936	533	5,384	569	37,273
71	-	442	211	6,240	2,021	219,299	181	16,650	177	79,166
72	174	4	2,383	3,921	14,065	297,759	986	15,235	2,007	111,949
73	-	520	260	10,348	697	46,262	107	3,844	118	18,588
74	31	83	1,199	8,755	8,980	260,942	374	10,451	1,262	78,643
75	15	59	18	985	5,430	95,332	555	2,456	1,281	26,608
76	380	27	136	31,584	2,569	61,928	200	19,274	252	17,112

For footnotes see end of table.

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN
EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1979-80—continued
(\$'000)

Div. No.	China-excl. Taiwan Province		China-Taiwan Province only		EEC		France		Germany, Federal Republic of	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
77	151	630	249	10,436	7,050	247,073	551	25,437	781	83,226
78	895	89	270	15,395	5,673	349,686	166	30,628	877	140,556
79	5	2	2,143	3,194	8,573	47,802	143	19,418	50	9,198
81	—	117	18	4,663	582	13,583	1	580	11	2,878
82	—	3,167	30	9,591	421	22,053	30	292	109	2,413
83	—	628	—	14,083	51	6,014	3	422	7	237
84	7	41,414	13	58,051	1,003	31,366	70	4,182	78	2,759
85	—	8,601	—	35,496	64	23,561	7	3,199	2	1,127
87	356	205	338	1,983	16,309	99,484	5,020	4,436	1,799	38,647
88	1	809	20	3,715	5,508	82,536	1,028	8,469	953	24,997
89	88	8,133	322	53,193	22,242	290,860	1,266	14,725	2,400	33,070
9A(b)	49	8	3,894	107	93,322	84,757	637	1,376	13,567	9,507
Total	845,164	199,669	322,997	440,841	2,655,659	3,781,264	336,807	303,401	493,401	1,008,439
9B	292	39	260	90	17,261	29,315	1,002	3,488	1,921	12,977
Total	845,456	199,708	323,257	440,930	2,672,919	3,810,579	337,810	306,889	495,322	1,021,416

(a) Included in Division 9A. (b) Includes Division 34 (Exports only).

Division No.	Description	Hong Kong		Indonesia		Iran	
		Exports	Imports	Exports	Imports	Exports	Imports
00	Live animals chiefly for food	1,341	—	2,859	—	51,387	—
01	Meat and meat preparations	16,201	31	1,820	—	35,884	—
02	Dairy products and birds' eggs	16,423	—	9,250	—	384	—
03	Fish and fish preparations	10,264	1,321	93	509	—	1
04	Cereal grains and cereal preparations	22,880	766	113,597	16	128,204	—
05	Fruit and vegetables	6,562	1,736	2,169	1,034	177	1,951
06	Sugar and sugar preparations and honey	380	215	464	—	1,275	—
07	Coffee, tea, cocoa, spices and manufactures thereof	1,740	79	151	45,567	—	1
08	Feeding-stuff for animals (except unmilled cereals)	1,681	1	64	—	679	—
09	Miscellaneous preparations chiefly for food	1,512	1,647	1,175	8	—	—
11	Beverages	1,664	24	677	—	—	—
12	Tobacco and tobacco manufactures	225	—	142	69	—	16
21	Hides, skins and furskins, raw	6,751	—	—	8	—	—
22	Oil-seeds, oil nuts and oil kernels	565	331	250	236	97	—
23	Crude rubber (including synthetic and reclaimed)	120	—	24	11,053	—	—
24	Wood, timber and cork	5	473	370	2,099	—	—
25	Pulp and waste paper	20	—	28	—	—	—
26	Textile fibres and their waste	5,378	132	2,527	—	9,135	—
27	Crude fertilisers and crude minerals (except coal, petroleum and precious stones)	263	4	2,539	257	187	1,224
28	Metalliferous ores and metal scrap	148	881	393	16	372	—
29	Crude animal and vegetable materials, n.e.s.	988	655	21	176	1	13
32	Coal, coke and briquettes	—	—	3	—	—	—
33	Petroleum and petroleum products	1,743	156	32,468	171,101	—	72,471
34	Petroleum gases and other gaseous hydrocarbons	(a)	—	(a)	—	(a)	—
41	Animal oils and fats	337	—	171	—	2,718	—
42	Fixed vegetable oils and fats	36	329	208	—	—	—
43	Animal and vegetable oils and fats, processed and waxes of animal or vegetable origin	282	—	593	—	—	—
51	Chemical elements and compounds	353	547	477	146	—	—
52	Mineral tar and crude chemicals from coal, petroleum and natural gas	1,366	3	7,260	28	518	—
53	Dyeing, tanning and colouring materials	808	29	1,316	—	350	7
54	Medicinal and pharmaceutical products	4,315	207	800	467	127	—
55	Essential oils and perfume materials; toilet, polishing and cleansing preparations	2,836	1,140	540	124	—	9
56	Fertilisers, manufactured	7	—	1,312	—	—	—
57	Explosives and pyrotechnic products	1	187	2,437	—	—	—
58	Plastic materials, regenerated cellulose and artificial resins	3,961	669	4,588	—	—	—
59	Chemical materials and products, n.e.s.	1,191	561	1,916	—	18	—
61	Leather, leather manufactures, n.e.s., and dressed furskins	3,134	483	26	12	92	—
62	Rubber manufactures, n.e.s.	70	223	469	145	—	—
63	Wood and cork manufactures (except furniture)	429	455	86	53	—	1

For footnotes see end of table.

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN
EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1979-80—continued

(\$'000)

Division No.	Description	Hong Kong		Indonesia		Iran	
		Exports	Imports	Exports	Imports	Exports	Imports
64	Paper, paperboard and manufactures thereof	4,402	1,194	1,808	—	—	—
65	Textile yarn, fabrics, made-up articles and related products	9,447	86,454	1,319	884	5,884	7,910
66	Non-metallic mineral manufactures, n.e.s.	13,875	3,675	3,488	618	—	—
67	Iron and steel	36,081	186	27,349	—	3,781	—
68	Non-ferrous metals	21,035	1,283	33,144	—	3,075	—
69	Manufactures of metal, n.e.s.	8,732	19,048	4,760	22	—	41
71	Machinery (except electric)	776	350	553	—	1	—
72	Electric machinery, apparatus and appliances	3,117	3,235	3,870	—	1,628	—
73	Transport equipment	471	82	1,072	—	—	—
74	General industrial machinery and equipment, n.e.s. and machine parts, n.e.s.	2,985	5,628	4,599	2	77	—
75	Office machines and automatic data processing equipment	1,433	2,718	238	—	5	—
76	Telecommunications and sound recording and reproducing apparatus and equipment	861	20,275	180	3	1	—
77	Electrical machinery, apparatus and appliances, n.e.s. and electrical parts thereof	4,266	23,157	2,138	9	45	—
78	Road vehicles (including air cushion vehicles)	1,970	1,134	2,808	1	1,953	—
79	Other transport equipment	558	612	3,979	118	—	—
81	Sanitary, plumbing, heating and lighting fixtures and fittings	122	4,092	12	5	—	3
82	Furniture	418	2,472	49	211	—	—
83	Travel goods, handbags and similar articles	139	16,021	5	59	—	—
84	Clothing and clothing accessories; articles of knitted or crocheted fabric	662	70,550	404	4,718	—	—
85	Footwear, gaiters, and similar articles and parts therefor	4	2,772	126	804	—	—
87	Professional, scientific and controlling instruments and apparatus, n.e.s.	1,294	841	892	5	41	—
88	Photographic apparatus, equipment and supplies and optical goods, n.e.s. watches and clocks	20,806	16,713	158	—	40	—
89	Miscellaneous manufactured articles, n.e.s.	5,493	78,995	453	527	85	31
9A	Commodities and transactions of merchandise trade, not elsewhere classified (b)	22,516	1,098	3,596	670	3,563	—
	Total merchandise	277,442	375,874	290,284	241,781	251,782	83,679
9B	Commodities and transactions not included in merchandise trade	1,934	4,648	2,861	11	33	9
	Grand total	279,376	380,522	293,145	241,793	251,815	83,688

(a) Included in Division 9A. (b) Includes Division 34 (Exports only).

Division No.	Italy		Japan		Korea, Republic of		Kuwait		Malaysia	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
00	—	8	6,672	—	362	—	39,676	—	10,941	—
01	2,328	731	370,871	55	19,631	—	18,333	—	9,835	3
02	—	2,502	46,273	1	1,376	—	3,165	—	16,772	—
03	7,128	596	132,088	15,032	141	2,474	217	—	411	10,472
04	9,724	726	331,711	844	14,773	28	26,130	—	58,350	39
05	472	4,972	18,256	1,078	76	285	1,869	—	6,899	269
06	135	249	279,519	82	66,924	64	135	—	80,734	2
07	—	1,215	8,047	1,171	—	2	25	—	4,689	10,523
08	31	330	12,270	244	—	—	778	—	526	433
09	1	386	326	1,504	33	82	55	—	684	257
11	33	4,198	494	500	30	16	19	—	392	—
12	—	18	—	13	—	1,591	—	—	—	—
21	68,612	—	41,807	—	3,023	—	—	—	183	—
22	8,846	1	684	27	1,319	1	—	—	36	2
23	—	7	—	2,315	42	—	—	—	76	33,775
24	175	13	146,350	102	—	—	—	—	—	41,264
25	—	—	242	—	—	—	—	—	—	—
26	153,354	110	445,427	9,412	67,182	1	—	—	12,802	165
27	545	1,170	40,446	11,419	5,006	43	1	—	1,599	—
28	42,952	—	1,377,987	1,253	87,289	—	—	—	86,802	113
29	2,481	338	9,267	1,636	1,414	343	29	—	889	311
32	44,486	—	1,207,836	628	91,534	—	2	—	113	—
33	—	21,012	55,199	4,321	38	179	—	311,058	4,423	12,155
34	(a)	10	(a)	2	(a)	—	(a)	—	(a)	—
41	256	21	4,828	6	3,838	—	—	—	550	—

For footnotes see end of table.

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN
EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1979-80—continued
(\$'000)

Division No.	Italy		Japan		Korea, Republic of		Kuwait		Malaysia	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
42	—	858	—	75	—	768	—	—	7	15,165
43	—	1	658	734	57	213	—	—	234	6,179
51	4	8,448	16,804	82,587	258	6,333	—	—	292	313
52	7	1,070	676	25,283	2,250	265	—	—	1,832	5
53	1	922	506	5,303	836	344	—	—	843	5
54	56	3,588	3,990	7,196	505	224	118	—	3,251	250
55	6	1,237	1,424	1,471	516	34	31	—	1,563	77
56	5	2	—	773	—	—	—	—	5	—
57	—	16	—	50	—	—	—	—	11	4
58	28	6,268	360	60,400	266	1,599	3	—	1,929	884
59	1	759	10,072	8,139	387	111	14	—	1242	69
61	17,948	1,240	971	1,198	192	1,042	15	—	357	9
62	5	7,497	125	67,884	—	9,903	3	—	148	3,032
63	2	1,973	630	799	23	988	—	—	52	7,215
64	805	18,545	505	35,743	15	2,023	505	—	7,255	35
65	2,594	25,501	19,115	146,593	2,876	35,198	21	—	1,344	12,772
66	120	39,301	20,791	56,347	314	3,640	3	—	2,576	175
67	33,992	1,912	18,813	175,734	7,275	13,563	3,261	—	12,865	292
68	24,375	694	71,871	9,120	14,467	450	179	—	30,999	2,937
69	453	10,570	7,878	62,766	168	6,492	257	—	5,916	3,122
71	153	7,395	266	61,622	112	56	4	—	928	25
72	358	41,447	2,845	87,617	385	44	565	—	5,434	475
73	2	5,916	694	23,255	354	369	82	—	1,565	77
74	429	25,540	1,417	106,296	306	357	423	—	4,015	9,499
75	77	19,075	990	93,965	176	323	—	—	1,363	—
76	38	833	495	207,576	8	6,473	19	—	2,007	2,031
77	180	21,994	3,479	152,538	114	2,098	672	—	5,553	1,831
78	971	29,509	1,225	690,585	4,120	1,037	199	—	4,181	223
79	114	837	41,220	102,986	4,277	25	41	—	2,549	23
81	35	3,618	2	4,159	—	30	22	—	35	111
82	—	11,932	129	3,031	4	882	64	—	83	1,383
83	2	3,949	32	864	—	3,049	6	—	26	127
84	61	9,007	1,979	5,514	—	14,242	33	—	113	3,606
85	12	15,907	24	549	—	4,100	—	—	15	2,262
87	1,406	4,460	3,124	29,052	667	619	60	—	1,231	263
88	135	6,099	1,195	74,749	23	1,522	17	—	422	190
89	342	41,695	2,166	76,673	195	14,897	86	1	2,350	1,203
9A (b)	477	870	292,116	2,010	592	43	21	7	1,296	108
Total	426,751	419,099	5,065,185	2,522,880	405,769	138,465	97,163	311,065	403,592	185,760
9B	323	1,400	6,642	3,759	269	21	2	—	24,263	60
Total	427,074	420,499	5,071,828	2,526,638	406,038	138,486	97,165	311,065	427,855	185,820

(a) Included in Division 9A. (b) Includes Division 34 (Exports only).

Division No.	Description	Netherlands		New Zealand		Papua New Guinea	
		Exports	Imports	Exports	Imports	Exports	Imports
00	Live animals chiefly for food	—	—	6,006	14,652	475	—
01	Meat and meat preparations	12,206	2	1,663	4,311	41,191	—
02	Dairy products and birds' eggs	98	2,287	342	10,675	5,751	—
03	Fish and fish preparations	544	1,256	3,146	20,442	576	1,072
04	Cereal grains and cereal preparations	497	1,189	10,981	3,414	38,263	—
05	Fruit and vegetables	6,787	1,015	18,436	12,992	3,584	5
06	Sugar and sugar preparations and honey	556	708	10,471	2,998	9,440	—
07	Coffee, tea, cocoa, spices and manufactures thereof	—	19,482	353	2,399	1,754	65,415
08	Feeding-stuff for animals (except unmilled cereals)	—	69	317	257	1,875	—
09	Miscellaneous preparations chiefly for food	—	456	768	2,825	3,450	—
11	Beverages	5	264	2,559	314	3,142	—
12	Tobacco and tobacco manufactures	202	11,216	122	93	7,484	1,269
21	Hides, skins and furskins, raw	2,453	6	4,687	81	—	—
22	Oil-seeds, oil nuts and oil kernels	2,912	5	2,180	118	41	—
23	Crude rubber (including synthetic and reclaimed)	—	681	1,561	4	138	4,986
24	Wood, timber and cork	2,511	16	2,040	26,402	6	1,806
25	Pulp and waste paper	—	35	1,011	41,574	14	—
26	Textile fibres and their waste	19,446	2,301	2,287	29,111	1,635	—
27	Crude fertilisers and crude minerals (except coal, petroleum and precious stones)	852	24	2,262	435	838	—
28	Metalliferous ores and metal scrap	45,371	20	42,751	3,457	151	557

For footnotes see end of table.

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN
EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1979-80—continued
(\$'000)

Division No.	Description	Netherlands		New Zealand		Papua New Guinea	
		Exports	Imports	Exports	Imports	Exports	Imports
29	Crude animal and vegetable materials, n.e.s.	2,116	510	2,013	5,868	161	6
32	Coal, coke and briquettes	23,418	14	256	284	13	—
33	Petroleum and petroleum products	1	876	132,314	5,217	23,125	1,062
34	Petroleum gases and other gaseous hydrocarbons	(a)	36	(a)	—	(a)	—
41	Animal oils and fats	3,478	3	69	77	2,813	—
42	Fixed vegetable oils and fats	9	2,396	229	76	587	692
43	Animal and vegetable oils and fats, processed and waxes of animal or vegetable origin	70	3,981	287	40	1,066	—
51	Chemical elements and compounds	2,220	16,596	12,472	743	982	—
52	Mineral tar and crude chemicals from coal, petroleum and natural gas	251	999	10,445	111	1,127	7
53	Dyeing, tanning and colouring materials	19	1,884	5,998	2,360	1,323	2
54	Medicinal and pharmaceutical products	583	2,447	29,465	2,650	2,156	—
55	Essential oils and perfume materials; toilet, polishing and cleansing preparations	3	1,188	5,459	5,963	7,765	—
56	Fertilisers, manufactured	—	725	2,466	281	1,242	—
57	Explosives and pyrotechnic products	—	—	2,291	—	176	—
58	Plastic materials, regenerated cellulose and artificial resins	55	14,549	27,468	8,537	2,826	6
59	Chemical materials and products, n.e.s.	40	14,642	5,924	1,645	3,355	1
61	Leather, leather manufactures, n.e.s., and dressed furskins	1,072	23	1,434	7,768	110	—
62	Rubber manufactures, n.e.s.	—	382	1,887	3,925	2,149	4
63	Wood and cork manufactures (except furniture)	1	329	2,045	12,718	599	4,375
64	Paper, paperboard and manufactures thereof	19	4,981	10,427	61,772	9,290	9
65	Textile yarn, fabrics, made-up articles and related products	294	6,295	23,951	60,073	2,886	1
66	Non-metallic mineral manufactures, n.e.s.	429	2,087	15,868	8,801	4,866	1
67	Iron and steel	10,182	1,450	78,138	2,935	16,482	—
68	Non-ferrous metals	87,781	317	59,752	8,150	2,049	—
69	Manufactures of metal, n.e.s.	1,018	3,072	29,322	23,720	16,466	19
71	Machinery (except electric)	71	1,640	8,219	543	5,487	85
72	Electric machinery, apparatus and appliances	918	8,348	19,692	11,810	18,602	23
73	Transport equipment	40	432	3,520	1,265	1,689	—
74	General industrial machinery and equipment, n.e.s. and machine parts, n.e.s.	390	6,885	27,611	15,514	15,256	7
75	Office machines and automatic data processing equipment	1,475	11,884	10,779	490	6,215	3
76	Telecommunications and sound recording and reproducing apparatus and equipment	89	2,966	3,253	1,656	4,512	20
77	Electrical machinery, apparatus and appliances, n.e.s. and electrical parts thereof	674	19,580	20,716	23,213	12,534	6
78	Road vehicles (including air cushion vehicles)	76	309	82,472	20,435	10,705	4
79	Other transport equipment	289	5,026	10,287	2,002	6,245	127
81	Sanitary, plumbing, heating and lighting fixtures and fittings	14	507	343	940	2,011	14
82	Furniture	8	180	1,742	12,101	2,451	9
83	Travel goods, handbags and similar articles	1	7	271	1,671	112	—
84	Clothing and clothing accessories; articles of knitted or crocheted fabric	24	54	6,815	19,494	2,846	—
85	Footwear, gaiters, and similar articles and parts thereof	—	7	1,457	2,453	1,611	—
87	Professional, scientific and controlling instruments and apparatus, n.e.s.	628	1,809	9,679	3,100	3,323	7
88	Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks	33	2,368	15,693	1,650	3,115	12
89	Miscellaneous manufactured articles, n.e.s.	1,212	5,703	32,724	23,445	7,831	85
9A	Commodities and transactions of merchandise trade, not elsewhere classified (b)	151	1,450	18,085	2,426	37,050	2,844
	Total merchandise	233,596	189,967	847,194	544,475	365,015	84,542
9B	Commodities and transactions not included in merchandise trade	1,001	363	17,578	2,224	4,048	1,916
	Grand total	234,596	190,330	864,772	546,698	369,064	86,459

(a) Included in Division 9A. (b) Includes Division 34 (Exports only).

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN
EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1979-80—continued

(\$'000)

Div. No.	Saudi Arabia		Singapore Republic of		United Kingdom		United States of America		U.S.S.R.	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
00	34,821	—	3,733	1	265	6,708	1,050	1,638	—	—
01	47,064	—	21,470	14	45,792	1,297	759,449	109	49,328	—
02	33,013	—	8,021	—	1,411	794	9,003	897	1,106	—
03	150	—	2,534	2,479	784	9,428	72,070	17,538	—	1,569
04	80,144	—	65,680	267	1,866	2,789	46	1,422	629,386	—
05	2,881	—	20,849	275	31,175	3,193	4,785	18,900	—	2
06	268	—	15,936	3	3,847	2,373	52,575	1,103	—	—
07	225	—	2,688	7,442	138	7,439	53	1,500	—	—
08	34	—	1,380	129	28	125	30	4,421	—	—
09	447	—	780	1,593	616	2,737	1,365	5,456	—	—
11	36	—	990	18	2,407	32,153	3,596	4,233	6	5
12	—	—	6	6	73	4,617	1,890	35,397	—	—
21	—	—	52	—	10,333	129	2,363	1,237	—	37
22	—	—	3	347	2,792	33	455	3,771	—	—
23	—	—	105	5,632	—	1,256	11	12,340	—	—
24	—	—	4	5,328	3,155	272	342	38,164	—	—
25	—	—	—	—	10	63	—	12,446	—	—
26	19	—	4	39	49,902	6,893	40,328	18,347	204,986	—
27	—	—	2,951	385	911	2,251	2,724	20,620	—	—
28	727	—	4,190	634	108,698	1,278	606,593	2,137	35,176	—
29	271	7	494	1,581	4,428	2,583	3,438	11,363	—	10
32	—	—	4	—	75,103	28	2,752	865	—	—
33	—	625,589	34,577	322,186	32	11,298	4,693	38,314	—	—
34	(a)	—	(a)	—	(a)	1	(a)	118	(a)	—
41	—	—	2,927	—	1,196	35	320	29	3,026	—
42	23	—	2	1,214	—	52	—	14,006	—	401
43	3	—	159	—	296	478	480	1,860	—	—
51	72	—	674	251	1,309	56,078	60	173,441	—	1
52	213	—	3,870	76	217	14,721	6,464	42,973	—	1,849
53	8	—	3,905	192	438	21,295	213	18,085	—	—
54	67	—	1,806	245	8,633	38,568	1,178	27,917	—	31
55	129	—	2,505	246	337	13,042	388	29,038	—	1
56	14	—	25	—	—	229	19	12,844	—	—
57	—	—	122	—	690	4,664	104	3,327	—	—
58	52	—	6,876	1,435	184	67,807	360	115,779	—	13
59	253	—	2,781	149	1,489	37,205	31,882	102,896	—	—
61	9	—	741	14	1,422	6,279	1,017	2,766	—	5
62	20	—	367	756	585	27,833	281	34,283	—	14
63	—	—	1,081	2,473	173	2,167	399	2,480	—	5
64	623	—	5,414	1,149	859	24,897	393	82,743	—	—
65	4	—	1,285	12,029	1,282	73,316	2,475	131,844	31	788
66	2,858	—	6,470	2,563	4,239	46,616	11,291	49,729	—	5
67	615	—	24,713	1,534	1,536	23,581	49,549	28,913	—	—
68	6,260	—	28,197	3,522	427,344	16,598	125,278	30,833	—	—
69	2,241	—	13,550	1,877	5,113	66,956	15,027	93,328	—	7
71	614	—	2,452	1,833	1,151	112,857	6,990	168,714	—	79
72	836	—	8,673	2,214	7,648	103,235	16,861	382,496	28	1,155
73	817	—	2,838	687	385	16,281	1,347	24,822	—	495
74	783	—	9,828	5,025	4,508	113,323	13,596	303,752	—	403
75	28	—	2,133	2,398	1,940	31,175	12,176	258,088	—	—
76	234	—	2,029	9,970	1,924	12,625	2,908	51,431	1	—
77	999	—	6,322	6,785	4,610	86,983	4,930	172,343	10	40
78	190	—	4,776	657	3,489	148,245	8,673	235,580	1	234
79	15	—	17,980	3,328	7,443	13,213	70,687	142,306	—	—
81	103	—	243	381	402	5,816	54	4,402	—	—
82	1	—	457	5,442	236	6,803	463	6,489	1	23
83	2	—	56	377	37	1,267	45	1,453	—	—
84	254	—	832	3,561	756	15,120	4,467	6,302	—	—
85	—	—	139	587	43	3,321	74	1,429	—	—
87	797	—	3,216	1,349	6,428	44,443	14,181	130,692	89	96
88	21	—	9,032	1,365	2,921	29,363	5,718	101,697	—	315
89	186	1	8,304	15,420	15,913	180,368	8,811	216,229	8,252	2,184
9A(b)	590	6	2,438	2,455	78,126	70,877	31,076	98,983	2	273
Total	220,035	625,603	375,667	441,914	939,068	1,637,468	2,019,846	3,558,659	931,428	10,041
9B	465	4	17,734	345	12,463	10,170	35,987	17,591	47,827	56,364
Total	220,501	625,607	393,401	442,259	951,531	1,647,638	2,055,833	3,576,250	979,255	66,406

(a) Included in Division 9A.

(b) Includes Division 34 (Exports only).

Ships' and aircraft stores

Ships' and aircraft stores loaded on overseas ships and aircraft are excluded from exports. The value of these stores is shown in the table below.

STORES LOADED ON BOARD OVERSEAS VESSELS AND AIRCRAFT, 1977-78 TO 1979-80
(*\$'000*)

<i>Stores</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>
Cigarettes, cigars and tobacco	1,536	1,659	2,199
Fuel, lubricating oil and lubricants	203,566	227,088	409,568
Foodstuffs for human consumption—			
Meat	3,306	3,183	4,963
Dairy products	359	318	787
Eggs in shell	368	284	430
Fish, crustaceans and molluscs	823	641	1,295
Fruit and vegetables	1,766	1,643	2,165
Alcoholic beverages	4,029	4,301	5,955
Other food and drink	2,810	1,735	2,914
Fodder	218	1,223	5,735
Other ships' stores	10,207	8,853	12,909
Total	228,985	250,928	448,920

Overseas trade by State

The following table shows the value of exports and imports for each State and Territory.

EXPORTS AND IMPORTS BY STATE, 1979-80
(*\$'000*)

<i>State(a)</i>	<i>Exports</i>	<i>Imports</i>
New South Wales	4,464,579	6,703,818
Victoria	3,784,020	5,506,573
Queensland	4,265,101	1,321,214
South Australia	1,603,141	882,389
Western Australia	3,853,797	1,449,756
Tasmania	660,526	179,780
Northern Territory	252,119	164,282
Australian Capital Territory	3,885	8,578
Grand Total	18,887,167	16,216,390

(a) For imports: State in which entry was lodged. The State of lodgement is not necessarily the State in which the goods were discharged or consumed. For exports: State is State of origin of Australian produce and State of final shipment of re-exported goods. State of origin is defined as the State in which the final stage of production or manufacture occurs. Because of this change in the basis on which statistics by State are derived, figures from 1 July 1978 are not directly comparable with those for previous periods, see 662.

Total import clearances, dutiable clearances, and customs duties collected

The following table shows the value of total import clearances, total dutiable clearances, and the customs duties collected, together with the ratio of total dutiable clearances to total clearances.

TOTAL IMPORT CLEARANCES, DUTIABLE CLEARANCES, AND CUSTOMS DUTIES

		<i>1974-75</i>	<i>1975-76</i>	<i>1976-77(a)</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>
Total import clearances	<i>\$'000</i>	7,976,280	8,174,645	10,304,756	11,122,041	13,662,602	16,066,215
Total dutiable clearances	"	3,029,747	3,224,861	4,022,198	3,978,180	4,488,894	9,843,055
Total customs duties collected	"	857,386	950,150	1,172,424	1,145,181	1,378,923	1,576,233
Ratio of dutiable clearances to total clearance	per cent	38.0	39.4	39.0	35.8	32.5	61.3
Ratio of duties collected to dutiable clearances	"	28.3	29.5	29.1	28.8	31.1	16.0

(a) Clearance figures from 1976-77 are not comparable with previous years because of the change in the basis of valuation (see page 662).

Excise

Although excise goods have no immediate bearing on overseas trade, the rate of excise duty is in some cases related to the import duty on similar goods. Moreover, as the Excise Acts are administered by the Bureau of Customs, it is convenient to publish here the quantities of Australian produce on which excise duty has been paid. Particulars of customs and excise revenue are shown in Chapter 22, Public Finance. The following table shows the quantities of spirits, beer, tobacco, etc. on which excise duty was paid in Australia.

QUANTITIES OF PRINCIPAL EXCISABLE GOODS ON WHICH EXCISE DUTY WAS PAID: AUSTRALIA

Article	1977-78	1978-79	1979-80	Article	1977-78	1978-79	1979-80
	'000 litre	'000 litre	'000 litre		'000 litre	'000 litre	'000 litre
Beer	1,923,387	1,887,313	1,931,262	Petrol—			
	'000 1 al	'000 1 al	'000 1 al	Aviation gasoline (by-law) (a)	64,108	76,529	97,215
Spirits—				Aviation gasoline—Other (a)	—	6,538	—
Brandy	2,845	2,384	2,194	Gasoline	14,214,250	14,793,982	14,607,133
Gin	695	558	470	Total petrol	14,278,358	14,877,050	14,704,348
Whisky	633	441	311	Mineral turpentine	—	—	—
Rum	1,750	1,635	1,541	Aviation turbine kerosene (a)	1,019,474	1,089,716	1,103,390
Liqueurs	296	268	200	Other kerosene	—	—	—
Vodka	827	656	594	Diesel fuel (as defined by by-law)	1,674,390	1,915,269	2,090,071
Flavoured spirituous liquors	263	211	217		doz. packs	doz. packs	doz. packs
Other	101	9	10		'000	'000	'000
Total spirits (potable)	7,410	6,163	5,537	Playing cards	132	140	116
	'000 kg	'000 kg	'000 kg		'000	'000	'000
Tobacco	1,944	1,841	1,824	Cigarette papers and tubes	3,150,190	3,323,630	3,269,055
Cigars	82	80	73		matches	matches	matches
Cigarettes—machine-made	27,867	26,670	27,487		'000	'000	'000
				Matches	25,739,447	23,495,320	22,519,837
					'000	'000	'000
					litre	litre	litre
				Crude petroleum oil, liquid petroleum and liquefied petroleum gas	27,460,991	27,385,310	24,524,213
					'000 tonnes	'000 tonnes	'000 tonnes
				Coal	68,398	69,508	71,780
					'000 doz	'000 doz	'000 doz
					containers	containers	containers
				Canned fruit	7,030	6,824	3,857

(a) Includes supplies to Commonwealth Government on which excise was paid.

FOREIGN INVESTMENT

Surveys of foreign investment have been conducted since 1947-48 to obtain particulars of certain types of private capital flows to and from Australia. The surveys, when supplemented by other information, provide statistics of foreign investment in enterprises in Australia and in Australian public authority securities, as well as statistics of Australian investment in enterprises abroad and in foreign government securities. Particulars of investment income from most of those classes of investment are also obtained from the surveys.

Certain types of foreign investment are not included in the statistics which follow. Investment in real estate (except when made through companies) and loans between Australian individuals and non-resident individuals are not covered. Nor are changes in short-term liabilities between exporters and importers in Australia and overseas covered, except in so far as they arise from exports and imports between branches or subsidiaries and their home offices or parent enterprises. In this case they are included in the figures of investment in branches or subsidiaries. Non-resident deposits in, and foreign borrowings by, Australian trading banks are excluded from foreign investment statistics and are included instead in the non-official monetary item in the balance of payments capital account.

In the tables which classify investment in Australia according to country of origin, the investment is shown as an inflow from the country which is the immediate source of the capital. Income payable on foreign investment is classified on a similar basis, i.e. it is classified to the country to which it is directly payable.

Remittances between Australia and foreign residents by Australian life insurance enterprises are regarded as capital transactions made to bring assets located in foreign countries into line with commitments in those countries, and are included as a flow of investment between Australia and foreign residents. Similar considerations apply for foreign life insurance enterprises with branches in Australia.

The following are explanatory notes relating to some of the terms used in the tables:

Branches. Offices in Australia of enterprises incorporated abroad or offices in separate foreign countries of enterprises incorporated in Australia. For the purposes of the survey, branches are included if the value of net liabilities to head office exceeds \$A10,000 or if the annual net profit or loss exceeds \$A10,000. Australian branches of foreign enterprises *include* other Australian offices of foreign enterprises where a branch register is maintained in Australia, but *exclude* enterprises in Australia which are incorporated abroad but which have no business operations in Australia other than an account with a bank in Australia. Foreign branches of enterprises in Australia *exclude* foreign enterprises which are incorporated in Australia but which have no business operations abroad other than an account with a foreign bank. However, the short-term assets represented by the bank accounts abroad are included as Australian portfolio investment abroad for those companies included in the surveys of foreign investment.

Enterprises. Incorporated and unincorporated businesses and other organisations including public enterprises, but *excluding* enterprises which have no business operations in a country other than an account with a bank in that country.

Direct investment. All investment in branches and subsidiaries by direct investors i.e. head offices of branches, direct shareholders in subsidiaries and other related enterprises.

Foreign residents. Any individual, enterprise or other organisation domiciled in a country other than Australia. Includes Norfolk Island and other external territories of Australia. Foreign branches and subsidiaries of enterprises in Australia are also regarded as being foreign residents.

Portfolio investment and institutional loans. Investment in enterprises other than direct investment, i.e. investment other than investment by related enterprises in branches and subsidiaries. Includes both corporate equities and borrowings.

Subsidiaries. An *Australian subsidiary* of a foreign enterprise is an enterprise in Australia, other than a branch, in which:

- (a) a single foreign resident (individual or enterprise) or a group of related enterprises in the one foreign country holds 25 per cent or more of the equity, or, if this condition does not apply,
 - (b) residents of one foreign country combined hold 50 per cent or more of the equity,
- together with other enterprises in Australia in which the Australian subsidiary holds, directly or indirectly, more than 50 per cent of the equity.

A *foreign subsidiary* of an enterprise in Australia is a foreign enterprise other than a branch, in which an enterprise in Australia holds 25 per cent or more of the equity. In principal, foreign enterprises in which the combined Australian shareholding is 50 per cent or more would also be included, but it is not practicable to ascertain the total investment by Australian shareholders in individual foreign enterprises.

Undistributed profits of subsidiaries. Equity of direct investors in the net earnings of an enterprise during the year, less tax payable on those earnings and less dividends declared during the year whether relating to earnings of the same year or not. Net earnings are, in general, based on income for taxation purposes. However, certain deductions allowable for taxation purposes (e.g. mining and petroleum exploration expenditure, Export Market Development Allowance, Investment Allowance for Manufacturing Plant, previous year's losses, etc.) are not deducted in calculating net earnings. Undistributed profits of Australian subsidiaries also include undistributed income accruing to the subsidiary from related enterprises in Australia.

Unremitted profits of branches. Net earnings (after tax) during the year, less remittances of earnings to the head office during the year, irrespective of the year to which the earnings relate. Net earnings of branches are, in general, similar to those for subsidiaries. Also included is undistributed income accruing to the branch of other enterprises related to the branch.

More details on foreign investment in Australia and Australian investment abroad are contained in the annual publication *Foreign Investment, Australia* (5305.0).

Foreign investment in enterprises in Australia and income payable on foreign investment in enterprises in Australia

The inflow of foreign investment in enterprises in Australia in recent years is shown in the next three tables.

INFLOW OF FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA BY TYPE OF INVESTMENT (\$ million)

Year	Direct investment					Portfolio investment and institutional loans	Total
	Undistributed income		Other direct investment				
	Branches	Subsidiaries	Branch liabilities to head office	Other (a)	Total		
1973-74	29	401	-	187	618	-128	490
1974-75	23	223	16	395	657	296	953
1975-76	186	428	7	-43	578	232	810
1976-77	52	619	53	358	1,081	459	1,540
1977-78	136	514	61	318	1,029	285	1,314
1978-79	3	800	206	384	1,392	601	1,992

(a) Includes for subsidiaries: corporate equities, intercompany indebtedness and borrowings; and for branches: borrowings from related foreign enterprises other than the head office.

Minus sign (-) denotes withdrawal.

INFLOW OF FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA, BY COUNTRY (\$ million)

Year	<i>EEC</i>		<i>U.S.A.</i>	<i>Canada</i>	<i>Japan</i>	<i>Other countries</i>	Total
	<i>United Kingdom</i>	<i>Other(a)</i>					
1973-74	104	83	189	16	77	20	490
1974-75	123	159	372	14	67	218	953
1975-76	278	20	380	14	98	20	810
1976-77	365	267	626	71	138	73	1,540
1977-78	412	66	607	-14	197	46	1,314
1978-79	838	97	762	-6	269	31	1,992

(a) Includes Belgium, Denmark, France, Federal Republic of Germany, Ireland, Italy, Luxembourg and Netherlands.

Minus sign (-) denotes withdrawal.

INFLOW OF DIRECT FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA, BY INDUSTRY GROUP (\$ million)

Year	<i>Primary production(a)</i>	<i>Manufacturing</i>	<i>Other industries</i>	Total
1973-74	71	247	300	618
1974-75	70	284	303	657
1975-76	28	233	317	578
1976-77	-41	487	635	1,081
1977-78	62	347	620	1,029
1978-79	55	547	791	1,392

(a) Includes agriculture, forestry, fishing, mining, quarrying and oil exploration and production.

Minus sign (-) denotes withdrawal.

The next three tables show investment income payable abroad by enterprises in Australia.

INCOME PAYABLE ON FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA, BY TYPE OF INCOME
(\$ million)

Income payable abroad on direct investment							
Year	Undistributed income	Distributed income			Total	Income payable abroad on portfolio investment and institutional loans	Total
		Remitted profits of branches	Dividends payable	Interest payable			
1973-74	431	104	208	110	853	163	1,016
1974-75	246	152	204	133	735	207	942
1975-76	614	157	248	129	1,148	242	1,390
1976-77	670	290	249	123	1,333	257	1,589
1977-78	649	315	295	113	1,372	297	1,669
1978-79	803	307	283	125	1,518	356	1,874

INCOME PAYABLE ON FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA BY COUNTRY
(\$ million)

Year	<i>EEC</i>						Total
	<i>United Kingdom</i>	<i>Other(a)</i>	<i>U.S.A.</i>	<i>Canada</i>	<i>Japan</i>	<i>Other countries</i>	
1973-74	390	14	492	25	19	76	1,016
1974-75	296	1	530	15	22	78	942
1975-76	483	53	651	47	43	113	1,390
1976-77	538	55	765	39	77	115	1,589
1977-78	627	55	800	-2	34	156	1,669
1978-79	766	79	838	11	54	125	1,874

(a) Includes Belgium, Denmark, France, Federal Republic of Germany, Ireland, Italy, Luxembourg and Netherlands.
Minus sign (-) denotes withdrawal.

INCOME PAYABLE ON DIRECT FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA, BY INDUSTRY GROUP
(\$ million)

Year	<i>Primary production(a)</i>	<i>Manu- facturing</i>	<i>Other industries</i>	Total
1973-74	279	321	253	853
1974-75	307	270	158	735
1975-76	314	413	422	1,148
1976-77	349	547	437	1,333
1977-78	377	464	531	1,372
1978-79	357	620	541	1,518

(a) Includes agriculture, forestry, fishing, mining, quarrying and oil exploration and production.

Australian investment in and investment income receivable from foreign enterprises

The outflow of Australian investment in enterprises in recent years and a classification by country in which the capital was invested are shown in the following two tables.

OUTFLOW OF AUSTRALIAN INVESTMENT IN FOREIGN ENTERPRISES, BY TYPE OF INVESTMENT
(\$ million)

Year	<i>Direct investment</i>		<i>Other direct investment</i>			Portfolio investment and institutional loans(a)	Total
	<i>Undistributed income</i>		<i>Branch liabilities to head office</i>	<i>Other</i>	<i>Total</i>		
	<i>Branches</i>	<i>Subsidiaries</i>					
1973-74	-3	103	55	90	244	18	262
1974-75	-12	40	3	63	94	5	99
1975-76	2	62	10	92	166	18	185
1976-77	-1	100	46	110	255	3	257
1977-78	-19	110	24	82	198	8	206
1978-79	5	161	24	28	218	-10	208

(a) Prior to April 1975, excludes portfolio investment in Papua New Guinea other than some long-term trade credit and short-term assets; between April and December 1975, includes transactions with Papua New Guinea where amounts involved are denominated in Kina; from January 1976, includes all portfolio investment in Papua New Guinea.

Minus sign (-) denotes repatriation of investment.

OUTFLOW OF AUSTRALIAN INVESTMENT IN FOREIGN ENTERPRISES, BY COUNTRY
(\$ million)

Year	<i>EEC</i>		<i>New Zealand</i>	<i>U.S.A. and Canada</i>	<i>Papua New Guinea(b)</i>	<i>ASEAN(c)</i>	<i>Other countries</i>	Total
	<i>U.K.</i>	<i>Other(a)</i>						
1973-74	41	29	28	49	(d)	24	(e)91	262
1974-75	2	-1	36	11	-6	39	19	99
1975-76	28	8	11	43	50	9	36	185
1976-77	31	9	72	60	26	17	43	257
1977-78	69	-1	46	7	26	23	35	206
1978-79	-13	-2	30	67	18	41	66	208

(a) Belgium, Denmark, France, Federal Republic of Germany, Ireland, Italy, Luxembourg and Netherlands.

preceding table.

(c) Indonesia, Malaysia, Philippines, Singapore and Thailand.

(b) See footnote (a) in preceding table.

(d) Not available for publication.

(e) Includes Papua New Guinea.

Minus sign (-) denotes repatriation of investment.

The next two tables show income receivable by Australian enterprises from direct investment in foreign enterprises, and the countries from which it is receivable.

INCOME RECEIVABLE ON AUSTRALIAN DIRECT INVESTMENT IN FOREIGN ENTERPRISES, BY TYPE OF INCOME (a)
(\$ million)

Year	Distributed income						Total
	Undistributed income		Remitted profits of branches	Dividends of subsidiaries	Interest		
	Branches	Subsidiaries					
1973-74	. .	-3	103	18	68	1	187
1974-75	. .	-12	40	23	60	3	113
1975-76	. .	2	62	22	46	5	136
1976-77	. .	-1	100	24	59	7	190
1977-78	. .	-19	110	33	113	3	241
1978-79	. .	5	161	37	85	7	295

(a) Details are not available of income receivable in Australia on either portfolio investment and institutional loans or on Australian holdings of foreign government securities.

Minus sign (-) denotes withdrawal.

INCOME RECEIVABLE ON AUSTRALIAN DIRECT INVESTMENT IN FOREIGN ENTERPRISES, BY COUNTRIES (a)

(\$ million)

Year	EEC		New Zealand	U.S.A. and Canada	Papua New Guinea	ASEAN	Other countries	Total
	U.K.	Other (b)						
1973-74	25	-	35	2	(c)	6	(d) 118	187
1974-75	17	-7	29	4	(c)	9	(d) 61	113
1975-76	24	2	34	7	(c)	9	(d) 61	136
1976-77	34	-3	54	8	39	17	42	190
1977-78	30	-3	59	4	62	21	68	241
1978-79	39	(c)	63	8	62	39	(e) 84	295

(a) Details are not available of income receivable in Australia on either portfolio investment and institutional loans or on Australian holdings of foreign government securities. (b) Belgium, Denmark, France, Federal Republic of Germany, Ireland, Italy, Luxembourg and Netherlands. (c) Not available for publication—included in *Other countries*. (d) Includes Papua New Guinea. (e) Includes 'Other EEC'.

Minus sign (-) denotes withdrawal.

BALANCE OF PAYMENTS

Broadly speaking, the Australian balance of payments is a statistical statement designed to provide a systematic record of Australia's economic transactions with the rest of the world. It may be described as a system of consolidated accounts in which the accounting entity is the Australian economy and the entries refer to all economic transactions between residents of Australia and residents of the rest of the world (non-residents). Such a record is essential to the examination of influences which external factors have on the domestic economy. Balance of payments estimates have always assumed a particular importance in Australia due to the importance of these influences on the Australian economy.

Official estimates of Australia's balance of payments for the period 1928-29 were included in Year Book No. 24, page 755. Except for the war years 1939 to 1945, estimates have since been published at least annually.

Detailed estimates and descriptions of concepts, structure and the various items included are provided in the annual publication *Balance of Payments, Australia* (5303.0).

More timely though less detailed estimates of the balance of payments are provided in a quarterly publication *Balance of Payments, Australia* (5302.0) approximately five and a half weeks after the end of each quarter. A monthly publication *Balance of Payments, Australia* (5301.0), showing the major balance of payments aggregates, is published about six to eight working days after the end of each month.

Balance of payments statements cover a wide range of economic transactions which may be broadly divided into three categories. The first category comprises transactions in goods, services and income between residents of Australia and non-residents. The second category relates to financial transactions involving claims on and liabilities to the rest of the world. Because the statement is constructed on a double entry recording basis, a third category described as *unrequited transfers* is required to provide offsetting entries for one sided balance of payments transactions, such as gifts in cash and kind which have no 'quid pro quo'. Two changes not arising from transactions—specifically changes in Australia's official reserve assets arising from the allocation (or cancellation) of Special Drawing Rights (SDR) by the International Monetary Fund (IMF) and the monetisation (or demonetisation) of gold—are included by convention, to make the accounts more analytically useful. The first and third of the above categories are combined in what is described as the current account and the second category together with the two changes not arising from transactions are shown separately in what is described as the capital account.

Under the internationally accepted conventions of the double entry system, credit entries are used to record exports of goods and services, income receivable and financial transactions involving either a reduction in the country's foreign financial assets or an increase in its foreign liabilities. Conversely, debit entries are used to record imports of goods and services, income payable and financial transactions involving either an increase in foreign financial assets or a decrease in foreign liabilities. Transactions in a double entry accounting system are reflected in pairs of equal credit and debit entries. Any entries that are not automatically paired are matched by special offsetting entries. Such offsetting entries are required for the category of unrequited transfers and the other changes not arising from transactions referred to in the previous paragraph.

It follows that, in principle, the net sum of all credit and debit entries is zero. In practice, some transactions are not measured accurately (errors), while others are not measured at all (omissions). Equality between the sum of the credit and debit entries is brought about by the inclusion of a balancing item which reflects net errors and omissions.

The market price principle is adopted as far as practicable in recording transactions in the Australian balance of payments. However, due to data availability and other measurement problems, transactions are generally valued at either the price at which they are recorded in the records of the transactors or the price at which they appear in administrative records.

Transactions and other changes recorded in the balance of payments should, in principle, be recorded at the time of change of ownership (either actual or imputed). For the current account this is conceived as the time when ownership of goods changes, services are rendered, when undistributed income of direct investment enterprises is earned, and when interest and dividends become due for payment. In the case of unrequited transfers, those which are imposed by one party on another, such as taxes and fines, should ideally be recorded at the time they become due for payment without penalty; whereas others should be recorded when the goods, services or financial items to which they are offsets change ownership. For capital account transactions the time of change of ownership is, by convention, normally taken to be the time at which transactions are entered in the books of the transactors. Entries for loan drawings should be based on actual disbursements and not on commitments or authorisations.

In practice, the nature of the available data sources is such that the time of recording of transactions will often diverge from the principle of time of change of ownership. This is particularly true in the case of transactions in goods which are, in the main, recorded at the time that administrative records relating to the movement of the goods across the customs frontier are processed. Where practical timing adjustments are made for transactions in certain goods to ensure that they are recorded in the time period in which change of ownership occurs.

In the first table that follows, the global balance of payments is presented in the conventional two column credit and debit accounting format. In the regional table, however, minus signs are used to denote current account debits and capital account debits (i.e. increases in assets or decreases in liabilities) while the absences of sign are used to denote current account credits and capital account credits (i.e. decreases in assets or increases in liabilities).

For current account transactions, entries for exports of goods and entries for imports of goods are recorded as credits and debits respectively. Likewise entries for transportation credits are recorded separately from entries for transportation debits and for most other invisible transactions the credit entries are similarly recorded separately from the debit entries. Current account transactions, in this context, are termed as being recorded gross. This treatment is in contrast to the recording of transactions and other changes in the capital account which is on a net basis. This means that, for each capital account item shown in the following table, credit entries are combined with debit entries to arrive at a single net result (either a credit or a debit) for the item concerned.

The items included in visible trade include all moveable goods, with a few exceptions, which undergo a change of ownership from residents to non-residents (exports) and from non-residents to residents (imports). Items 3 to 10 which are grouped together under the heading 'invisibles' include services, income and unrequited transfers. Invisible credits comprise the value of services rendered by residents to non-residents, the income earned by Australian residents from the ownership of foreign financial assets and copyrights, licences, etc. (e.g. dividends, interest and royalties) and the offset entries to the value of cash and kind transferred by non-residents to residents without a quid pro quo (unrequited transfers). Invisible debits are composed of similar transactions, but with the roles of resident and non-resident interchanged.

For capital account transactions, entries for government capital (items 11 to 13) broadly reflect the capital account transactions of the general government sector (i.e. Commonwealth, State and local government authorities and statutory bodies except for government-owned or controlled (public) trading and financial enterprises). However it includes the trade credit transactions and some other minor transactions of certain public enterprises which are included in this grouping under other government transactions (item 13). Items 14 to 17, which comprise private capital, broadly refer to the capital account transactions of resident individuals, or privately owned trading and non-bank financial enterprises and government owned and controlled trading and non-bank financial enterprises.

The transactions of non-official monetary institutions (item 18) broadly cover the capital account transactions of trading banks mainly in the form of overseas borrowings and holdings of foreign currency balances while item 19, official monetary institutions, covers all transactions with the IMF; all capital transactions of the Reserve Bank, as the central monetary authority, with central monetary authorities including the Bank for International Settlements; and transactions and other relevant changes in the holdings of monetary gold and foreign currency assets owned and controlled by the central authorities which are available for meeting balance of payments needs.

BALANCE OF PAYMENTS
(*\$ million*)

	1976-77		1977-78		1978-79	
	<i>Credit</i>	<i>Debit</i>	<i>Credit</i>	<i>Debit</i>	<i>Credit</i>	<i>Debit</i>
CURRENT ACCOUNT						
Goods—						
1 Exports f.o.b. (a)	11,447	—	12,026	—	14,075	—
2 Imports f.o.b. (a)	—	10,345	—	11,165	—	13,493
Balance of trade	1,102	—	861	—	582	—
Invisibles—						
4 Transportation—						
4.1 Freight on imports	—	1,034	—	1,076	—	1,245
4.2 Expenditure of non-resident operators	813	—	814	—	895	—
4.3 Other transportation	434	961	512	1,053	664	1,253
5 Travel	278	510	345	551	425	644
6 Government—						
6.1 Australian government—						
6.11 Defence expenditure	—	62	—	67	—	72
6.12 Other expenditure	—	127	—	156	—	147
6.13 Services to non-residents	24	—	23	—	21	—
6.2 Foreign governments, expenditure	64	—	70	—	77	—
7 Miscellaneous—						
7.1 Business expenses	52	109	59	187	82	146
7.2 Other	42	146	96	212	162	237
8 Property income—						
8.1 Direct investment—						
8.11 Undistributed	99	670	91	649	166	803
8.12 Distributed	91	662	150	723	127	715
8.2 Interest on government loans	—	114	—	162	—	307
8.3 Royalties and copyrights	13	57	10	81	15	93
8.4 Other	156	272	114	321	142	403
9 Government transfers—						
9.1 Papua New Guinea	—	244	—	237	—	247
9.2 Other foreign aid	—	145	—	179	—	230
9.3 Social security cash benefits	—	26	—	36	—	40
10 Private transfers—						
10.1 Migrants' funds	133	102	132	97	140	85
10.2 Social security cash benefits	29	—	28	—	11	—
10.3 Other	114	188	242	270	261	313
Balance on current account	—	1,986	—	2,510	—	3,212

For footnotes see end of table.

OVERSEAS TRANSACTIONS

BALANCE OF PAYMENTS—*continued*
(\$ million)

	1976-77		1977-78		1978-79	
	Credit	Debit	Credit	Debit	Credit	Debit
CAPITAL ACCOUNT (NET)						
Non-monetary—						
Government—						
11 Government securities—						
11.1 Domiciled overseas	357	—	1,612	—	1,349	—
11.2 Domiciled in Australia	18	—	33	—	7	—
12 International development financing institutions	—	35	—	38	—	27
13 Other government transactions	—	92	—	43	24	—
Private—						
14 Foreign investment in Australian enterprises—						
14.1 Direct investment—						
14.11 Undistributed income	670	—	649	—	803	—
14.12 Other	411	—	380	—	589	—
14.2 Portfolio investment and institutional loans	459	—	285	—	601	—
15 Australian investment abroad—						
15.1 Direct investment—						
15.11 Undistributed income	—	99	—	91	—	166
15.12 Other	—	156	—	106	—	52
15.2 Portfolio investment and institutional loans	—	3	—	9	9	—
16 Net remittances abroad by life insurance enterprises	6	—	1	—	1	—
17 Trade credit n.e.i.—						
17.1 Marketing authorities	111	—	—	208	34	—
17.2 Other	131	—	—	76	—	14
Monetary—						
18 Non-official monetary institutions—						
18.1 Changes in liabilities—						
18.11 Borrowing overseas	18	—	63	—	—	2
18.12 Other liabilities	41	—	—	37	108	—
18.2 Changes in assets—						
18.21 Advances to non-residents	21	—	—	10	—	43
18.22 Foreign currency balances	—	44	—	19	—	2
19 Official monetary institutions—						
19.1 Changes in liabilities—						
19.11 Use of IMF credit	309	—	—	90	—	—
19.12 Other liabilities	—	10	158	—	—	136
19.2 Changes in official reserve assets	190	—	474	—	167	—
19.3 Allocation of SDR	—	—	—	—	94	—
19.4 Other transactions	2	—	—	—	—	—
Balancing item	—	318	—	419	—	130
Balance on capital account	1,986	—	2,510	—	3,212	—

(a) The amounts shown represent the recorded trade figures adjusted for balance of payments purposes. Adjustments affect timing, coverage and valuation.

BALANCE OF PAYMENTS BY REGIONS

(\$ million)

	1976-77	1977-78	1978-79
CURRENT ACCOUNT (a)			
Exports f.o.b. (b)—			
United States of America	983	1,241	1,774
Canada	278	276	272
United Kingdom	520	469	552
Germany, Federal Republic	389	391	433
Other European Economic Community(c)	957	850	1,015
Japan	3,953	3,877	4,137
New Zealand	553	565	728
Other OECD(d)	259	210	232
Total OECD	7,892	7,879	9,144
ASEAN	741	833	1,039
Papua New Guinea	190	227	286
Centrally Planned Economies(e)	779	983	905
Other countries	1,846	2,104	2,701
<i>Total exports</i>	11,447	12,026	14,075
Imports f.o.b. (b)—			
United States of America	-2,145	-2,422	-3,233
Canada	-287	-272	-377
United Kingdom	-1,140	-1,267	-1,464
Germany, Federal Republic	-801	-724	-991
Other European Economic Community(c)	-719	-773	-963
Japan	-2,117	-2,103	-2,405
New Zealand	-314	-353	-435
Other OECD(d)	-500	-544	-631
Total OECD	-8,023	-8,458	-10,500
ASEAN	-424	-546	-611
Papua New Guinea	-79	-73	-68
Centrally Planned Economies(e)	-150	-168	-201
Other countries	-1,669	-1,921	-2,114
<i>Total imports</i>	-10,345	-11,165	-13,493
Invisibles (net)—			
United States of America	-1,052	-1,167	-1,285
Canada	-53	-8	-27
United Kingdom	-916	-1,088	-1,272
Germany, Federal Republic	-103	-137	-173
Other European Economic Community(c)	-157	-158	-171
Japan	-101	-60	-120
New Zealand	45	49	126
Other OECD(d)	-215	-271	-293
Total OECD	-2,551	-2,840	-3,215
ASEAN	-162	177	-175
Papua New Guinea	-136	-107	104
Centrally Planned Economies(e)	5	-3	2
Other countries	-242	-243	-302
<i>Total invisibles (net)</i>	-3,088	-3,370	-3,794
Balance on current account—			
United States of America	-2,214	-2,348	-2,744
Canada	62	-5	-132
United Kingdom	-1,536	-1,886	-2,185
Germany, Federal Republic	-514	-470	-730
Other European Economic Community(c)	81	-81	-118
Japan	1,735	1,714	1,611
New Zealand	283	262	419
Other OECD (d)	-456	-606	692
Total OECD	-2,682	-3,419	-4,571
ASEAN	155	109	254
Papua New Guinea	-26	47	114
Centrally Planned Economies(e)	633	813	707
Other countries	-66	-59	286
Balance on current account	-1,986	-2,510	-3,212

For footnotes see end of table.

BALANCE OF PAYMENTS BY REGIONS—*continued*

(\$ million)

	1976-77	1977-78	1978-79
CAPITAL ACCOUNT (NET)(a)			
Non-monetary sector—			
Government capital movements—			
United States of America	-32	269	-25
Canada	-	-	-2
United Kingdom	15	-24	-51
Germany, Federal Republic	303	1,002	89
Other European Economic Community(c)	30	110	256
Japan	-8	172	612
New Zealand	-	-	-
Other OECD(d)	-39	49	506
Total OECD	269	1,577	1,385
ASEAN	1	-	-
Papua New Guinea	3	3	3
Centrally Planned Economies (e)	-	-	-
Other countries	-24	-15	-35
<i>Total government capital movements</i>	249	1,564	1,354
Foreign investment in Australian enterprises—			
United States of America	626	607	762
Canada	71	-14	-6
United Kingdom	365	412	887
Germany, Federal Republic	141	46	111
Other European Economic Community(c)	126	20	-63
Japan	138	197	269
New Zealand	-15	27	-24
Other OECD(d)	83	47	75
Total OECD	1,535	1,343	2,011
ASEAN	-36	28	48
Papua New Guinea	-1	-	-4
Centrally Planned Economies(e)	-1	8	6
Other countries	42	-64	-70
<i>Total foreign investment in Australian enterprises</i>	1,540	1,314	1,992
Other private capital movements—			
United States of America	-17	15	-40
Canada	19	-7	-2
United Kingdom	-16	-117	45
Germany, Federal Republic	11	4	9
Other European Economic Community(c)	27	-9	5
Japan	18	-24	-11
New Zealand	-44	-77	-25
Other OECD(d)	-3	-6	6
Total OECD	-4	-220	-14
ASEAN	-19	-40	-71
Papua New Guinea	-19	-35	-28
Centrally Planned Economies(e)	69	-144	69
Other countries	-38	-50	-145
<i>Total other private capital movements</i>	-11	-489	-188
Total non-monetary sector transactions—			
United States of America	577	891	697
Canada	90	-20	-10
United Kingdom	362	271	881
Germany, Federal Republic	455	1,052	209
Other European Economic Community(c)	183	121	198
Japan	148	346	870
New Zealand	-59	-51	-50
Other OECD(d)	41	91	587
Total OECD	1,799	2,700	3,383
ASEAN	-54	-13	-23
Papua New Guinea	-16	-32	-29
Central Planned Economies(e)	68	-135	76
Other countries	-19	-129	-250
<i>Total non-monetary sector transactions</i>	1,778	2,389	3,159

For footnotes see end of table.

BALANCE OF PAYMENTS BY REGIONS—continued
(\$ million)

	1976-77	1977-78	1978-79
CAPITAL ACCOUNT (NET)(a)			
Monetary sector transactions—			
Net official monetary movements(f)	491	542	124
Non-official monetary sector transactions(f)	36	-3	60
Balancing item(f)	-318	-419	-130
Balance on capital account(f)	1,986	2,510	3,212

(a) For current account entries minus sign (-) denotes a debit, for capital account items minus sign (-) denotes an increase in foreign financial assets or a decrease in foreign liabilities. (b) The amounts shown represent recorded trade figures adjusted for balance of payments purposes. Adjustments affect timing, coverage and valuation. (c) Belgium, Luxembourg, Denmark, France, Ireland, Italy, Netherlands. (d) Greece, Spain, Turkey, Austria, Finland, Iceland, Norway, Portugal, Sweden, Switzerland. (e) Albania, Bulgaria, Czechoslovakia, Democratic Kampuchea, German Democratic Republic, Hungary, Lao Peoples Democratic Republic, Mongolia, North Korea, Peoples Republic of China, Poland, Romania, Socialist Republic of Vietnam, U.S.S.R. (f) No regional split is available for these items.

International reserves

The following table shows Australia's official reserve assets as at 30 June for recent years.

OFFICIAL RESERVE ASSETS(a)

(Source: Reserve Bank of Australia)

(\$ million)

	30 June		
	1978	1979	1980
Official reserve assets—			
Foreign exchange—			
United States dollars	727	612	644
Others	982	952	711
Special Drawing Rights	113	195	30
Reserve position in IMF	180	186	179
Gold	1,225	1,939	4,117
Total	3,225	3,885	5,681

(a) SDRs, and Australia's reserve position in the IMF are based on the IMF basket valuation for the SDR, which is published in terms of US dollars crossed with the representative rate for the Australian dollar in terms of the US dollar. Gold is valued at the average London gold price for the month, converted to Australian dollars at the market rate of exchange applying on the last day of the month. The foreign currency value of all other overseas assets has been based, where applicable, on market quotations. Accrued interest is normally taken into account. Conversion to Australian dollar equivalent is based on market rates of exchange.

FOREIGN CONTROL

A program of studies of foreign control of key industries and economic activities in Australia has been undertaken. Studies have been completed for manufacturing, mining, mineral exploration other than for petroleum, petroleum exploration, registered financial corporations other than retailers, finance companies, general insurance, life insurance, tourist accommodation, accredited advertising agencies and research and experimental development (R and D). This program of foreign control studies was terminated in 1978, as part of the measures necessary to bring ABS activities within the resources available to it.

Brief explanatory notes and a summary of the main results of these studies are given below.

An enterprise in Australia has been classified to *foreign control* if a foreign resident investor (individual, company or group of related companies) or foreign controlled enterprise held at least 25 per cent of the paid-up value of its voting shares (or equivalent equity interest in the case of unincorporated enterprises), provided that there was no larger holding by an Australian controlled enterprise or Australian resident individual. This definition of foreign control includes cases where there was an equal holding by an Australian controlled enterprise or Australian resident individual. All enterprises not classified to foreign control have been classified to *Australian control*.

To obtain aggregate measures of the extent of foreign control of an industry (or economic activity), operations data for each statistical unit in that industry (economic activity) have been allocated wholly to the appropriate control category for that unit and the results summed over all units in the industry (economic activity).

In the following table the classification by country of foreign control is based on the country of domicile of the *immediate* foreign resident investor who held the controlling interest in the enterprise. This is not necessarily the country of ultimate control, since an immediate foreign resident investor may be an enterprise that is controlled by residents of another country.

FOREIGN CONTROL OF INDUSTRIES AND ECONOMIC ACTIVITIES IN AUSTRALIA

Industry and period	Foreign/Aust. control measured in terms of	Total value of measure used	Foreign control				Australian control	
			U.K.	U.S.A.	Other	Total	Australian control	Total
		\$ million			-per cent-			
Manufacturing 1972-73	value added	10,746	16.2	13.1	5.0	34.3	65.7	100.0
Manufacturing industry—study of large enterprise groups 1975-76	value added	8,534	20.5	16.7	6.2	43.5	56.5	100.0
Mining 1976-77	value added	3,562	15.9	37.5	5.6	59.0	41.0	100.0
Mineral exploration other than for petroleum 1975-76	exploration expenditure	117	15.0	23.6	15.8	54.4	45.6	100.0
Petroleum exploration 1975-76	exploration expenditure	60	36.7	34.1	3.6	74.4	25.6	100.0
Registered financial corporations other than retailers 1976	total assets	25,172	14.2	17.1	2.5	33.8	66.2	100.0
Finance companies 1976	balances outstanding	13,254	17.9	26.5	3.8	48.2	51.8	100.0
General insurance business 1975-76	premiums received	2,846	26.0	2.7	9.1	37.8	62.2	100.0
Life insurance business 1976	premiums received	1,501	13.2	1.7	3.8	18.7	81.3	100.0
Tourist accommodation establishments 1973-74	total takings	1,361	1.2	0.7	2.3	4.3	95.7	100.0
Accredited advertising agencies 1974-75	turnover	464	6.4	44.5	—	50.9	49.1	100.0
R and D performed on account of private enterprises 1976-77	expenditure	156	21.2	23.5	7.5	52.3	47.7	100.0

VALUES OF EXPORTS AND IMPORTS OF MERCHANDISE AT CONSTANT PRICES

The following tables show annual values of Australian exports and imports of merchandise at constant (average 1974-75) prices. These estimates are compiled on the basis of recorded statistics of merchandise trade within the framework of the Australian Export Commodity Classification (AECC) and the Australian Import Commodity Classification (AICC). Quarterly figures in original and seasonally adjusted terms are published regularly in the publication *Exports and Imports of Merchandise at Constant Prices, Australia* (5421.0).

Nature of measures

In concept, constant price estimates may be thought of as being derived by expressing the value of each component transaction as the product of a quantity and a price, and then substituting, for each current period price, the average price of the corresponding item in the base year. There are, however, many transactions recorded in statistics of overseas trade for which it is not possible to apply such an approach. Some common examples of such transactions are those where quantity data are not recorded or where there is some doubt as to whether the commodity involved corresponds sufficiently to that for which a base year price has been calculated. In these cases it is necessary to make assumptions and approximations (e.g. revaluing by means of the price index which is considered to be most closely related to the commodity involved). The published estimates at constant prices should be viewed in the light of these approximations and should not be interpreted as precise quantitative measures.

The system of recording import values was changed from 1 July 1976. It has been estimated that, if the previous basis of valuation had been continued, the total value of imports would have been about 2 per cent higher at current prices than the recorded values on the new basis. The constant (average 1974-75) price estimates would be affected to a much lesser degree (refer page 624).

From 1978-79, exports and imports have been classified according to the new AECC and the new AICC respectively. These are based on the Standard International Trade Classification, Revision 2.

The changes in the commodity classification have caused only two significant discontinuities in the published aggregates between 1977-78 and 1978-79, both being due to the reclassification of exports of alumina from Division 51 of the superseded AECC to Division 28 of the current AECC. The other published aggregates have not been significantly affected by the adoption of the new commodity classification.

IMPORTS OF MERCHANDISE AT AVERAGE 1974-75 PRICES

(\$ million)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80p
Food, beverages and tobacco	377	330	379	372	369	401
Fuels	724	679	763	797	759	782
Basic materials	433	409	441	426	450	461
Chemicals (incl. plastics)	786	666	799	832	962	1,062
Textiles, fabrics, etc.	436	521	546	516	593	560
Metals, metal manufactures, machinery and transport equipment	3,565	3,156	3,529	3,108	3,657	3,304
Other imports	1,639	1,570	1,752	1,682	1,825	1,940
Total imports of merchandise	7,961	7,331	8,211	7,732	8,615	8,510

EXPORTS OF MERCHANDISE AT AVERAGE 1974-75 PRICES

(\$ million)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80p
Principal exports of rural origin—						
Meat and meat preparations	444	602	727	799	834	652
Cereal grains and cereal preparations	1,460	1,460	1,535	1,794	1,277	2,552
Sugar, sugar preparations and honey	661	664	841	813	613	745
Wool and sheep skins	816	1,024	1,191	900	1,035	959
Other (dairy produce, fruit, etc.)	399	471	526	460	498	547
Total	3,780	4,222	4,820	4,768	4,256	5,455
Other exports—						
Metalliferous ores and metal scrap	1,202	1,177	1,218	1,207	1,633	1,746
Coal, coke and briquettes	733	674	767	827	822	906
Metals, metal manufactures, machinery and transport equipment	1,551	1,433	1,504	1,486	1,749	1,874
Other exports	1,275	1,333	1,414	1,545	1,370	1,388
Total	4,761	4,617	4,904	5,066	5,573	5,914
Total exports of merchandise	8,541	8,840	9,724	9,835	9,829	11,369

Further information

For detailed information see the Annual Bulletin of *Foreign Investment, Australia* (5305.0) also the other annual publications *Overseas Trade, Australia* (issued in two parts) (5409.0 and 5410.0), *Australian Exports, Country by Commodity* (5411.0), *Australian Imports, Country by Commodity* (5414.0), *Imports Cleared for Home Consumption, Australia* (Microfiche only) (5412.0), *Exports, Australia: Annual Summary Tables* (5424.0), *Exports of Major Commodities and Their Principal Markets, Australia* (5423.0), *Imports, Australia: Annual Summary Tables* (5426.0), *Customs and Excise Revenue, Australia* (5427.0) and *Balance of Payments, Australia* (5303.0). Preliminary information is available in summary form in the statements *Balance of Payments, Australia* (quarterly) (5302.0), *Foreign Investment, Australia (Preliminary)* (annual) (5304.0), *Exports and Imports, Australia (Preliminary)* (monthly) (5401.0), *Exports by Commodity Divisions, Australia (Preliminary)* (monthly) (5402.0), and *Imports by Commodity Divisions, Australia (Preliminary)* (monthly) (5405.0). Current information is included in the *Monthly Summary of Statistics, Australia* (1304.0), the *Digest of Current Economic Statistics, Australia* (1305.0), and in more detail in *Exports, Australia* (monthly) (5404.0), *Imports, Australia* (monthly) (5406.0) and *Customs and Excise Revenue, Australia* (monthly) (5425.0). There are also the following additional publications: *Exports of Major Commodities and Their Principal Markets, Australia* (monthly) (5403.0), *Imports of Assembled New Passenger Motor Cars, Australia (Preliminary)* (monthly) (5416.0) and *Exports by Mode of Transport, Australia* (quarterly) (5415.0) and *Exports and Imports, Australia: Trade with Selected Countries and Major Country Groups* (quarterly) (5422.0). Additional unpublished details of exports and imports can be supplied on request.

A subscription service is available from this Bureau to provide for the detailed requirements of individual users of overseas trade statistics. These special periodical statements are obtainable monthly or quarterly and show trade according to items of the Australian Export and Import Commodity Classifications or statistical key code dissections of Australian Customs Tariff items. An appropriate charge is made which varies depending on the amount of detail required.

More detailed statistics and explanatory notes on individual foreign participation studies are contained in the following publications:

Foreign Ownership and Control in Manufacturing Industry, 1972-73 (5322.0), Foreign Control in Manufacturing Industry, Study of Large Enterprise Groups, 1975-76 (5315.0), Foreign Control in the Mining Industry, 1976-77 (5329.0), Foreign Control in Mineral Exploration, 1975-76 (5323.0), Foreign Control of Registered Financial Corporations, 1976 (5328.0), Foreign Control of Finance Companies, 1976 (5324.0), Foreign Control of General Insurance Business, 1975-76 (5326.0), Foreign Control of Life Insurance Business, 1976 (5325.0), Foreign Ownership and Control of Tourist Accommodation Establishments, 1973-74 (5319.0), Foreign Ownership and Control of Accredited Advertising Agencies 1974-75 (5318.0) and Foreign Control in Research and Experimental Development—Private Enterprises, 1976-77 (5330.0).

CHAPTER 25

SCIENCE AND TECHNOLOGY

Overview

Much of the early history of Australian science was based largely on the individual achievements of a few outstanding scientists.

During and after World War I, governments in various parts of the world took initiatives aimed at encouraging scientific research and applying it to economic growth and national development; Australia was no exception. In 1926 the Council for Scientific and Industrial Research (CSIR) was established by the Commonwealth Government. Initially, it concentrated its efforts on the primary industries, typifying the trend of research in Australia at that time, when most major research initiatives were taken by Government and aimed at the primary industries. The level of research in the universities and industries remained much as before.

With the approach of World War II, however, moves were made to extend scientific support for secondary industry. In the CSIR, Divisions created in the period 1937–40 were to play an important part in the rapid development of Australian industry that occurred under the stimulus of war-time needs.

Expansion of scientific research in general, and industrial research in particular, continued after the war. This expansion extended beyond government into the universities and industry.

Though, even today agricultural research absorbs a significant proportion of Australia's research effort, industrial, medical and defence research are now of major importance also. The volume of research in the social sciences remains small, although in Australia, as elsewhere in recent years, there has been increasing support for the view that adequate weight must be given in governmental policy-making to the social aspects of national proposals.

In 1976–77, the most recent year for which complete data are available, total expenditure on research and development (R & D) in both the natural and social sciences was estimated at \$802 million, approximately equivalent to 1.0 per cent of the Gross Domestic Product in that year.

In 1976–77, governments in Australia provided approximately 80 per cent of the funds devoted to R & D and undertook in their own agencies approximately 56 per cent (in terms of expenditure) of the overall national R & D effort.

Whilst these data serve to illustrate the dominant position occupied by governments in Australian scientific and technological R & D activities, they do not provide a complete picture since comprehensive information is not available on resources devoted to other scientific and technological activities in Australia.

Advice and co-ordination

Australia does not have a single central body with overall policy and funding responsibilities for science and technology. In order to achieve at the national level integration of advice, relative assessment of priorities and the development of criteria and broad strategies for future directions, several national advisory bodies, in addition to government departments such as the Department of Science and Technology and the Department of National Development and Energy have been established: the Australian Science and Technology Council (ASTEC), which is responsible to the Prime Minister and advises on science and technology matters including research, development and the application of new and existing knowledge; the National Energy Advisory Committee (NEAC), which advises the Minister for National Development and Energy on matters relating to national energy policy, National Energy Research, Development and Demonstration Council (NERDDC) which advises the Minister for National Development and Energy on the development and co-ordination of energy research in Australia and the disbursement of funds under the National Energy Research Development and Demonstration Program (NERD&D Program); and the Australian Manufacturing Council (AMC), which is served by some thirteen advisory councils and advises the Minister for Industry and Commerce on matters of industry policy, and the Commonwealth Council for Rural Research and Extension (CCRRE), which advises the Minister for Primary Industry across the whole spectrum of rural research and extension.

Australian Science and Technology Council (ASTEC)

Prior to the establishment of ASTEC, there had been an intensive period of discussion and review concerning arrangements for the provision to the Government of adequate advice on policies for science and technology in Australia. An outline of the discussions can be found in Chapter 28 of Year Book No. 61.

ASTEC was established as a permanent body by executive action in April 1977. At that time the Prime Minister announced in Parliament that ASTEC would become a statutory body. The ASTEC legislation passed through Parliament in the Autumn session of 1978. ASTEC was established as a statutory authority in February 1979.

ASTEC's legislation states:

The functions of the Council are to investigate, and to furnish information and advice to the Commonwealth Government in respect of matters relating to science and technology, including the following matters:

- the advancement of scientific knowledge;
- the development and application of science and technology in relation to the furtherance of the national well-being;
- the adequacy, effectiveness and overall balance of scientific and technological activities in Australia;
- the identification and support of new ideas in science and technology likely to be of national importance;
- the practical development and application of scientific discoveries;
- the fostering of scientific and technological innovation in industry; and
- the means of improving efficiency in the use of resources by the application of science and technology.

These functions allow ASTEC a wide purview, ranging from pure science, to the problems of improving efficiency in industry by applying the results of research and development. It considers activities and technological problems of higher education institutions and private enterprise.

To discharge its functions, the Council is provided with appropriate powers. The Council is able to form committees, engage consultants, conduct inquiries and collect information on any matter within its functions arising either from its own initiative or at the direction of the Minister to whom ASTEC reports (presently the Prime Minister).

The Council's reports to the Government are made public unless there are overwhelming reasons in the national interest for not doing so. ASTEC's Act contains detailed provisions requiring the prompt tabling in Parliament of ASTEC reports except in closely defined circumstances.

ASTEC's first major exercise since its formation has been a comprehensive review of the state of Australian science and technology, embracing description of various areas of national importance, and recommendation thereon. The first part of this report, entitled *Science and Technology in Australia 1977-78*, was made public in mid-1978, and it was published in its completed form in March 1979.

ASTEC has also provided reports to Government on the organisation of the Bureau of Mineral Resources, Geology and Geophysics, in November 1978; on arrangements for the direct funding of basic research in Australia, in March 1979; on the next generation of Australian telescopes, in May 1979; and on immediate issues in Australian marine science, in July 1979. The Council's most recent reports concern priorities for additional research and development in the marine sciences and technologies in 1980-81, and, in response to referrals from the Government, proposals for additional incentives for industrial research and development.

Following a recommendation in the abovementioned review of Australian science and technology, the Australian Marine Sciences and Technologies Advisory Committee (AMSTAC) was established in February 1979 as a standing committee of ASTEC. Its functions include assessment of present activities in marine sciences and technologies, and advising on priorities and mechanisms for achieving a balanced national program in this area.

ASTEC is also proceeding with studies which will assist in the development of its strategic role involving the matching of Australia's science and technology effort to its resources, problems and goals. These studies include development of means to measure science and technology effort, examination of the mechanisms used in other countries for establishing priorities in science and technology, and of the scientific and technological implications of Government policies.

National Energy Advisory Committee (NEAC)

For information on NEAC see Chapter 18, Energy.

National Energy Research, Development and Demonstration Council (NERDDC)

For information on NERDDC see Chapter 18, Energy.

Department of Science and Technology

The Department of Science and Technology has general responsibility for science and technology while other Commonwealth Departments including National Development and Energy, Defence, Housing and Construction, Health, Primary Industry and Education have lead roles in providing policy advice and funding or in carrying out research in support of their specific objectives.

In addition to the provision of policy advice on science and technology, the Department of Science and Technology provides information about science for the use of decision makers and to the public. Its role enables it to provide a scientific and technological perspective at the interdepartmental level. The Department's responsibilities includes the fostering of closer working relationships and consultation among government agencies, tertiary institutions, scientific associations, the private sector and the community.

The Department's administrative functions in relation to certain scientific services and research activities (such as the Bureau of Meteorology, the Australian Government Analytical Laboratories, the Antarctic Division, the Australian Biological Resources Study, the Australian Research Grants Scheme and Australia's science agreements with other countries), help to ensure that its policy advice is tempered with an awareness of practical problems in science and technology.

Committee of Inquiry into Technological Change in Australia

In December 1978, the Government appointed a Committee of Inquiry into Technological Change in Australia under the chairmanship of Professor Rupert Myers. The Committee was asked to examine, report and make recommendations on the process of technological change in Australian industry in order to maximise economic, social and other benefits and to minimise any adverse consequences. The Government's response to the Committee's recommendations was tabled in Parliament on 18 September 1980.

The Report identifies technological change as one of the main sources of economic growth. The Committee concluded that Australia will be best served if industry remains abreast of world technological developments and makes the fullest possible use of Australian expertise in developing new products and processes.

The Committee commissioned the ABS to undertake a survey to obtain information on the nature and extent of technological change currently occurring in Australia; results of this survey are shown on pages 666 and 667.

Energy Research and Development

The Department of National Development and Energy through the National Energy Office provides policy and technical advice on energy research, development and demonstration (R, D & D) and administers the National Energy Research, Development and Demonstration Program (NERD & D Program).

The National Energy Research, Development and Demonstration Council (NERDDC) was established in May 1978. It advises the Minister for National Development and Energy on the development and co-ordination of a national program of energy research and the disbursement of funds under the NERD & D Program. Council consists of thirteen members drawn from government, private industry and tertiary institutions who are appointed by the Minister on the basis of established expertise in the energy field. It is supported by eight Technical Standing Committees, covering all major areas of energy technology, which provide expert technical advice. The NERD & D Program is funded from the accrued funds paid to the Coal Research Trust Account under the provision of the *Coal Research Assistance Act 1977* and from a Departmental Appropriation for energy research.

This was the second full year of operation of NERDDC. During this year, a further \$26.5 million was committed to energy research projects over a wide range of energy technologies. This brought the total committed to date under the NERD & D Program to around \$42 million. An additional Technical Standing Committee (TSC) was formed to cover Economic, Social and Environmental issues, bringing the total number of TSC's to eight. NERDDC and its TSC's also assist the Department in monitoring scientific and technical progress and performance of projects being supported.

Other Organisations

Advice to government on scientific and technological issues comes also from various learned and professional bodies. Such counsel may be offered on the initiative of the organisation itself or in response to an official request. For example, the *Australian Academy of Science* maintains a number of sectional and standing committees which specialise in selected broad fields of science; ad hoc advisory committees are appointed by the Academy from time to time to examine and report on specific matters. In addition, the Academy has maintained since 1967 a Science and Industry Forum which brings together leading scientists and industrialists to discuss topics of national significance, a complementary Science and Society Forum was inaugurated in 1973. Communication between government and the technology area of the science-technology spectrum is facilitated by the *Australian Academy of Technological Sciences*.

The most broadly based of the learned and professional bodies is the *Australian and New Zealand Association for the Advancement of Science* (ANZAAS). The Association has established a Science Policy Commission for giving increased attention to policy issues.

In recent years, matters of scientific and technological policy have received much discussion among such learned and professional organisations as well as in academic circles. Increasingly, other professional bodies with more specific charters are giving attention to matters of science and technology policy. Such bodies include the *Royal Australian Chemical Institute* (RACI), the *Institution of Engineers, Australia*, the *Australian Institute of Physics*, and the *Federation of Australian University Staff Associations* (FAUSA) which concentrates on issues specifically affecting the university sector.

There are a number of groups within the industry sector—e.g. the Australian Industrial Research Group (AIRG) and some specialist panels (Industry Advisory Councils) of the Australian Manufacturing Council (AMC)—which, from time to time, provide advice to government on industrial research and development.

Intergovernmental co-ordination is affected through bodies established for the purpose. While certain of these are concerned with promoting research and scientific and technical services, these are secondary objectives pursued in tandem with economic, social or environmental goals. Typical of these bodies are the Australian Agricultural Council, the Australian Minerals and Energy Council, the Australian Water Resources Council, and the Australian Environment Council.

The intergovernmental ministerial councils are assisted by standing committees of officials. Frequently, expert working groups and sub-committees are established to consider particular specialised aspects of a Council's broad field of interest and to advise the council through the relevant standing committee.

Councils do not directly undertake research or the provision of services, although such activities are commonly pursued within agencies coming under the control of individual ministerial members. In some instances, councils have control of research funds and provide grants or arrange for projects to be undertaken in particular fields of interest.

In some scientific and technical fields not coming directly within the purview of the Ministerial councils, there are standing arrangements at agency level for consultation and promotion of co-operation (the Electricity Supply Association of Australia is an example).

In addition to intergovernmental agencies, official advisory bodies have been established to deal with activities, interests and responsibilities of the Commonwealth Government and its agencies, and to advise on Government support of higher education and of industry. Amongst these bodies are the Australian Research Grants Committee (ARGC); the National Health and Medical Research Council (NHMRC); the Australian Industrial Research and Development Incentives Board (AIRDIB); the CSIRO Advisory Council and its State Committees; the Rural Industry Research Fund Advisory Committees; the Tertiary Education Commission and its Councils; and the National Energy Research Development and Demonstration Council.

The Prime Minister announced the establishment of the *Antarctic Research Policy Advisory Committee* in February 1979 to advise the Government, through the Minister for Science and Technology, on the development of an effective and balanced program of scientific and exploration activity in the Antarctic and sub-Antarctic region. In particular, the Committee will advise on priorities for scientific and technological research in areas such as mineral and living resources, and on the potential environment effects of exploitation.

It will advise on the scientific merit and adequacy of Australian Antarctic research programs, on the organisational arrangements for implementation of programs, and on the role of the Antarctic Division of the Department of Science and Technology in this effort. From time to time, it will also undertake reviews of existing programs and provide advice on new programs, taking into account current government policy in these areas.

The Committee is chaired by Professor D. E. Caro, Vice-Chancellor of the University of Tasmania.

In August 1979, the Prime Minister announced the creation of the *Marine Research Allocations Panel* to advise the Minister for Science and Technology on the allocations of funds provided for grants in marine science and technology. An amount of \$400,000 was provided for 1979–80 and the two succeeding financial years, with \$300,000 to be devoted to the Great Barrier Reef region.

The *Building Research and Development Advisory Committee* is the main link between private industry and the principal Commonwealth research groups, the CSIRO Division of Building Research, the Department of Housing and Construction, and the Physical Working Environment Branch of the Department of Science and Technology.

The Committee advises the Commonwealth Government organisations concerned in building research and development on the technical problems of industry and where research, investigation, development work or technical liaison activity is required. It also assists in the dissemination of

knowledge of the activities of organisations undertaking research and development work, and investigates the nature and extent of both government and privately funded research in the Australian building industry and advises all parties concerned of any overlapping or duplication of research effort.

The Technology Transfer Council was formally established in August 1978 to provide a technical referral program aimed at utilising the technological expertise resident in academic, government and private research institutions, and to assist in the effective use of existing technology in Australian industry. A network of technical referral centres is planned. For the first three years, the project will operate on a pilot scale in the metals manufacturing industry. There will be two specialist centres in the first stage of the project: the Centre of Machining Technology hosted by Swinburne College of Technology, and the Centre of Casting Technology hosted by the Division of Material Science, CSIRO, Melbourne. Four generalist centres are also planned for immediate establishment.

The Information Technology Council was established in March 1978 on the initiative of the Department of Science and Technology. It is concerned with establishing facilities for the guidance, instruction, demonstration and support to business management on the use of information technology. It also seeks to promote the importance of information technologies to business and to sponsor specific projects in the field.

Established in 1963, the *Australian Water Resources Council* (AWRC) is a Commonwealth and State Ministers' forum for dealing with water resources matters of mutual interest. Commonwealth and State collaboration through the AWRC initially concentrated on resources assessment and research, but more recently the Council's functions have been expanded to include management and planning. The AWRC and its committees have provided an important contribution to the development of Commonwealth water policies and programs and, in many cases, provide the means of implementing them.

As part of its Secretariat role, the Department of National Development and Energy publishes reports and documents, and also arranges seminars and workshops on behalf of the AWRC.

The Commonwealth established the Water Research Fund in 1968 to provide support for a research program developed through the AWRC. The fund is administered by the Department of National Development and Energy. Funds have been committed on a triennial basis, currently running at \$450,000 annually.

The program covers basic and applied research into all aspects of water resources with the aim of providing a better basis for the assessment, planning, development and management of Australia's water resources. It complements research work carried out by government agencies, universities and other organisations and, in general, is used to stimulate new work not handled within existing programs.

The program for the current triennium beginning in 1980–81 is based on a series of priority areas identified by the AWRC; including flood plain management, water storage management, non-point sources of pollution, salinity, waste-water disposal and reuse, drinking water quality, aquatic biology, groundwater, evapotranspiration, and instruments and techniques.

Expenditure and manpower

Project SCORE

Project SCORE (Survey and Comparisons of Research Expenditures) provides details of Australian expenditure on research and experimental development activities. It should be noted, however, that it does not provide comprehensive data on all resources devoted to scientific and technological activities in Australia. Programs not covered by Project SCORE, some of which involve large expenditures, are those which have no research and development component; such programs include many of those aimed at providing scientific or technological services.

Coverage and Methodology. The first comprehensive survey of expenditure on research and experimental development (R & D) was carried out for the 1968–69 financial year. This survey, known as Project SCORE, covered R & D expenditure and manpower in the natural and social sciences in all sectors of the Australian economy. The Project was carried out principally by means of questionnaires and, in order to provide direct comparison with other OECD countries, followed (with some exceptions) guidelines laid down by the OECD. In addition to a summary report dealing with the overall national situation, separate Project SCORE reports cover the following sectors: Commonwealth Government, Private enterprise, State Government, Higher education, and Private non-profit. A summary of the results for 1968–69 is given in Year Book No. 60, pp 995–1005.

The results of the second survey, for the 1973–74 financial year (1974 calendar year for the Higher education sector), were published in two volumes: Volume 1 contains the reports for the

Commonwealth Government, State Government, and Private non-profit sectors, while Volume 2 presents an all-sector summary together with the reports for the Private enterprise and Higher education sectors. A summary of the results is given in Year Book No. 61, pp 989-998.

The results of the third survey, for the 1976-77 financial year (1976 calendar year for the Higher education sector), were published with reports for all sectors presented in the one volume. A summary of the results is given in Year Book No. 64, pp 703-713. A fourth survey was conducted in respect of the 1978-79 financial year (1978 calendar year for the Higher education sector), and the main results were being compiled at the time of writing; however, preliminary results for the Business Enterprise sector were published by the ABS in March 1980 *Research and Experimental Development—Business Enterprises Australia—1978-79 (Preliminary)* (8105.0) and a summary of these results is given below.

For the purposes of the surveys, *research* was defined as original investigation directed towards increasing the general body of knowledge about, or understanding of, the subject studied. Within this category, *basic research* was taken to be original investigation of which the primary aim was more complete knowledge or understanding of the subject under study, while *applied research* was taken to be original investigation of which the primary aim was the solution of a recognised practical problem. Work was defined as *experimental development* where it involved the systematic use or adaptation of research results directed towards the production of new or improved products, processes, systems or methods. The physical, chemical, biological, earth, engineering and applied, agricultural and medical sciences were included in the natural sciences, which together with the social sciences, were covered in all the surveys. The 1973-74, 1976-77 and 1978-79 surveys also covered R & D in the humanities, which was excluded in 1968-69.

Business enterprise sector. The preliminary estimate of expenditure on R & D carried out in Australia by business enterprises during 1978-79 was \$244 million at current prices. This represents a 20 per cent increase in expenditure compared with 1976-77. At constant (average 1974-75) prices R & D expenditure was estimated to have increased by one per cent over the same period. The corresponding estimate of manpower on R & D during 1978-79 was 8,696 man years and this represents a 7 per cent decrease in man years compared with 1976-77. Additional information is summarised in the following table:

**RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY BUSINESS ENTERPRISES
BROAD INDICATORS BY INDUSTRY OF ENTERPRISE**

<i>Institutional sector and industry of enterprise</i>		<i>Enterprises that carried out R & D (number)</i>		<i>R & D expenditure (at current prices) (\$m)</i>		<i>Man years of effort on R & D</i>	
<i>ASIC code (1969 edition)</i>	<i>Description</i>	<i>1976-77</i>	<i>1978-79</i>	<i>1976-77</i>	<i>1978-79</i>	<i>1976-77</i>	<i>1978-79</i>
PRIVATE ENTERPRISE							
	MINING						
11	Metallic minerals	14	11	3.6	3.3	143.1	87.5
12-15	Non-metallic minerals	8	8	0.5	1.8	14.8	34.6
11-15	Total mining (excluding services to mining)	22	19	4.1	5.1	157.9	122.1
	MANUFACTURING						
21-22	Food, beverages and tobacco products	69	77	11.6	15.5	550.9	528.0
23-24	Textiles, clothing and footwear	27	20	2.1	1.1	106.4	35.9
25	Wood, wood products and furniture	22	27	0.9	1.8	49.6	60.8
26	Paper, paper products, printing and publishing	16	13	3.3	4.1	149.2	144.8
2723	Pharmaceuticals and veterinary products	20	25	4.5	7.1	172.7	236.8
(a)	Chemicals, petroleum and coal products	93	96	19.7	26.8	1,047.0	1,133.3
28	Non-metallic mineral products	32	28	3.8	4.3	169.1	162.3
29	Basic metal products	36	35	19.0	21.3	902.9	784.6
31	Fabricated metal products	74	81	4.0	5.0	228.1	222.6
32	Transport equipment	44	46	14.6	15.4	760.9	667.9
331	Photographic, professional and scientific equipment	20	17	4.6	6.9	231.5	226.7
332	Household appliances and electrical equipment	129	123	21.1	31.2	1,209.2	1,170.8
333	Industrial machinery and equipment	141	116	8.2	9.5	425.4	416.6
33	Total other machinery and equipment	290	255	33.9	47.5	1,866.1	1,814.1
34	Leather, rubber and plastic products and manufacturing n.e.c.	57	52	3.5	5.1	184.7	177.5
C	Total manufacturing	780	756	121.0	155.0	6,187.6	5,968.6
	OTHER INDUSTRIES						
E	Construction	22	24	0.9	1.6	51.6	61.4
F	Wholesale and retail trade	88	102	9.2	11.4	375.7	385.2
63	Real estate and business services	179	170	12.8	16.5	777.2	632.2
8411	Research and scientific institutions	29	22	10.9	11.3	470.6	392.1
(b)	Other n.e.c.	19	30	1.5	3.5	78.9	89.5
16, D-I, K-L	Total other industries	337	348	35.3	44.4	1,754.0	1,560.4
	Total all industries (c)	1,139	1,123	160.4	204.5	8,099.5	7,651.1
PUBLIC SECTOR BUSINESS ENTERPRISES							
	Total all industries (c)	30	37	42.4	39.1	1,243.2	1,044.6
TOTAL BUSINESS ENTERPRISES							
	Total all industries (c)	1,169	1,160	202.8	243.6	9,342.7	8,695.7

(a) ASIC Subdivision 27 excluding ASIC class 2723. (b) ASIC codes 16, D, G-H, 61-62, K-L excluding ASIC class 8411. (c) Excludes enterprises in ASIC Division A.

Statistics of Technological Change

The Committee of Inquiry into Technological Change commissioned the ABS to undertake a survey of non-farm enterprises to obtain information on the nature and extent of technological change and its effects on personnel practices in Australia for the three years to 30 June 1979. Results of the survey are shown in the following tables.

The Survey (based on a stratified random sample of 1,200 private enterprises selected from the ABS Central Register of Economic Units) was seen as complementary to detailed case studies of individual enterprises being undertaken by other bodies on behalf of the Committee; it was intended to provide a broad background against which particular cases could be seen in perspective.

Although the results of the survey provide some perspective on where and to what extent technological changes have been occurring, it is important not to read too much into the limited information that has been collected. For example, although the survey produced an estimate of the number of enterprises retrenching or recruiting employees because of technological change, it does not provide a measure of the numbers actually retrenched or recruited; it is the incidence rather than the degree of technological change and employment effect which are represented.

From the survey, it was estimated that 19 per cent of private non-farm enterprises introduced technological change in the three years to 30 June 1979. Twenty-nine per cent of manufacturing enterprises introduced technological change. Of those enterprises with employment of more than 80 persons, 76 per cent introduced technological change in the three years to 30 June 1979.

The most common form of change was in the area of equipment (other than EDP) and/or production processes (cited by 14 per cent of enterprises on the Register). However, for those enterprises with employment of more than 80 persons, the most common change was in the area of EDP equipment (60 per cent).

Most enterprises (76 per cent) introducing technological change considered that it had had no effect on the number of persons they employed as at 30 June 1979. As a result of technological change 7 per cent of those enterprises introducing technological change retrenched employees surplus to requirements. For enterprises with employment of more than 80 persons introducing technological change, 16 per cent retrenched employees as a result of such change. Ten per cent of enterprises introducing technological change recruited to fill new positions created as a direct result of such change. Thirty-three per cent of enterprises with employment of more than 80 persons recruited as a direct result of introducing technological change.

PRIVATE NON-FARM ENTERPRISES (a) INTRODUCING TECHNOLOGICAL CHANGE IN THE THREE YEARS ENDING 30 JUNE 1979 BY NATURE OF CHANGE, INDUSTRY AND SIZE OF ENTERPRISE

Nature of change introduced	Enterprises with employment of				All enterprises (a)				
	80 persons or less		more than 80 persons		Manufacturing		Non-manufacturing		Total
	No.	% (b)	No.	% (b)	No.	% (b)	No.	% (b)	No. % (b)
EDP equipment (c)	17,036	5	2,700	60	2,730	7	17,007	5	19,737 5
Equipment (other than EDP) and/or production processes	51,874	14	2,010	45	8,837	23	45,048	13	53,885 14
Raw materials	3,930	1	642	14	2,410	6	2,161	1	4,572 1
Materials handling, storage, distribution or transportation	26,331	7	1,130	25	3,991	11	23,471	7	27,462 7
Any of the above changes (d)	68,418	19	3,418	76	11,064	29	60,772	18	71,836 19

(a) Excludes public enterprises and those enterprises classified to Agriculture, Forestry, Fishing and Hunting. (b) Percentages are the proportion of all enterprises regardless of whether introducing technological change or not. (c) Includes the use of service bureau computers or commercial data processing services. (d) Does not equal the sum of the components as enterprises may have introduced more than one change.

**EFFECT (a) ON EMPLOYMENT OF PRIVATE NON-FARM ENTERPRISES (b) INTRODUCING
TECHNOLOGICAL CHANGE IN THE THREE YEARS ENDING 30 JUNE 1979 BY INDUSTRY AND
SIZE OF ENTERPRISE**

	<i>Enterprises with employment of</i>				<i>All enterprises (b)</i>					
	<i>80 persons or less</i>		<i>more than 80 persons</i>		<i>Manufacturing</i>		<i>Non- manufacturing</i>		<i>Total</i>	
	<i>No.</i>	<i>% (c)</i>	<i>No.</i>	<i>% (c)</i>	<i>No.</i>	<i>% (c)</i>	<i>No.</i>	<i>% (c)</i>	<i>No.</i>	<i>% (c)</i>
<i>Considered that number of employees would otherwise have been:</i>										
Higher	6,678	10	951	28	1,337	12	6,292	10	7,629	11
Much the same	52,491	77	1,803	53	6,767	61	47,527	78	54,294	76
Lower	4,124	6	346	10	1,497	14	2,973	5	4,470	6
Unable to make reliable judgment	5,125	7	318	9	1,462	13	3,981	7	5,443	8
Total	68,418	100	3,418	100	11,064	100	60,772	100	71,836	100

(a) Enterprises introducing technological change were asked to consider whether, if they had *not* introduced technological change, their employment at 30 June 1979 would have been higher/much the same/lower compared to their actual employment. (b) Excludes public enterprises and those enterprises classified to Agriculture, Forestry, Fishing and Hunting. (c) Percentages are the proportion of those enterprises actually introducing technological change.

**SELECTED PERSONNEL PRACTICES IMPLEMENTED BY PRIVATE NON-FARM ENTERPRISES (a)
INTRODUCING TECHNOLOGICAL CHANGE IN THE THREE YEARS ENDING 30 JUNE 1979 BY
INDUSTRY AND SIZE OF ENTERPRISE**

<i>Personnel practices implemented with technological change</i>	<i>Enterprises with employment of</i>				<i>All enterprises (a)</i>					
	<i>80 persons or less</i>		<i>more than 80 persons</i>		<i>Manufacturing</i>		<i>Non- manufacturing</i>		<i>Total</i>	
	<i>No.</i>	<i>% (b)</i>	<i>No.</i>	<i>% (b)</i>	<i>No.</i>	<i>% (b)</i>	<i>No.</i>	<i>% (b)</i>	<i>No.</i>	<i>% (b)</i>
Recruitment to fill new positions created as a direct result of technological change	6,143	9	1,132	33	1,951	18	5,324	9	7,275	10
Transfer of employees to jobs of equal or higher salary	5,398	8	1,496	44	2,278	21	4,617	8	6,895	10
Transfer of employees to jobs of lower salary	n.p.	n.p.	n.p.	n.p.	138	1	39	—	177	—
Reliance on natural wastage and normal turnover to reduce or avert the retrenchment of employees	9,868	14	1,598	47	1,952	18	9,514	16	11,466	16
Retrenchment of employees who were surplus to requirements	4,682	7	532	16	474	4	4,740	8	5,214	7
Consultation with employees affected and/or representatives prior to introducing change (c)	2,623	4	1,228	36	1,826	17	2,025	3	3,851	5

(a) Excludes public enterprises and those enterprises classified to Agriculture, Forestry, Fishing and Hunting. (b) Percentages are the proportion of those enterprises actually introducing technological change. (c) Many enterprises (55% of those introducing technological change) considered this practice to be not applicable.

Resources and services

Although power to regulate the development and utilisation of Australia's natural resources rests largely with the States, the Commonwealth Government, in part because of its jurisdiction in the control of Australia's overseas trade, also plays an important role. Extensive machinery exists for consultation and collaboration between the Commonwealth and State governments in relation to the development and management of natural resources.

Several important resources and services are dealt with elsewhere in this Year Book and are thus not included in this chapter. These include health (Chapter 10), agricultural industries (Chapter 13), forestry (Chapter 14), fisheries (Chapter 14), water (Chapter 15), the mineral industry (Chapter 16), transport (Chapter 20), and communications (Chapter 20).

Soil resources

A Standing Committee on Soil Conservation was established in 1946. It comprises the heads of soil conservation bodies in the States and representatives of relevant Commonwealth agencies. The Committee co-ordinates activities of interest to its member bodies such as the survey of erosion throughout Australia which was carried out in the late 1960s, and the development of co-operative arrangements for in-service training of technical personnel.

Fauna and flora resources

During the last century, as each State became established, museums and botanical gardens containing herbaria were set up. Studies of fauna and flora were carried out by these bodies and by the universities. Various divisions of CSIRO have also carried out work on fauna and flora, but an important part of total Australian research into inventorying biological resources continues to be undertaken in the museums and herbaria of the State governments.

In 1973, the Commonwealth Government set up the Australian Biological Resources Study (ABRS) under an Interim Council. Funds were made available through it to stimulate taxonomic and ecological studies of Australian fauna and flora. In 1978, following recommendations by the Interim Council and by the Australian Science and Technology Council, ABRS was established as a continuing program within the Department of Science and Technology.

Funds are made available through ABRS on the recommendation of an Advisory Committee to the Minister for Science and Technology for work designed to fill the gaps in the scientific knowledge of the Australian fauna and flora. The role of ABRS is to co-ordinate all work aimed at collecting, describing, classifying and determining the distribution of Australian animals and plants. Its responsibilities include the maintenance of a comprehensive network of national taxonomic collections and a national taxonomic data bank. Its current major projects are the writing of a concise flora of Australia, the compilation of an Australian Faunal List and the establishment of an Australian Biotaxonomic Information System.

Fauna and flora conservation

Responsibility for the conservation and management of fauna and flora resources rests, in the main, with the State Governments. However, the Commonwealth has responsibility for such resources in its own Territories.

In 1975, the Commonwealth Government established the Australian National Parks and Wildlife Service, whose functions include care and management of national parks and wildlife in Australia and its Territories, conduct of ecological studies to determine additional areas which should be reserved as national parks and nature reserves, and survey and assessment of wildlife populations with particular reference to endangered species.

In June 1980, the Whale Protection Bill received Royal Assent. The Act will be proclaimed when appropriate arrangements have been concluded with the State and Northern Territory Governments. The legislation prohibits killing, capturing, injuring or interference with a whale, dolphin or porpoise in the Australian fishing zone and by Australians domiciled in Australia and Australian vessels and aircraft and their crews beyond the 200 mile Australian fishing zone, with penalties up to \$100,000.

Environmental protection

Responsibility for most pollution control aspects of environmental protection rests with the State Governments, which have all enacted legislation to control the operations of government and private enterprises that may have a deleterious effect on the physical environment.

The Commonwealth Government is responsible for pollution control in its own Territories and in respect of the operation of its own agencies within the States. It is also concerned with the enforcement of provisions of relevant international conventions to which Australia is a signatory.

Both the Commonwealth and State Governments also have legislation or procedures for assessing the environmental impact of proposed actions that may have a significant effect on the environment. These procedures generally provide for the preparation of environmental impact statements—sometimes allowing for public review—as a prerequisite to approval of new development projects or other activities with significant environmental consequences.

The various governments collaborate in environmental and conservation matters through three Ministerial Councils: the Australian Environment Council, which provides a framework for consultation on environmental matters; the Council of Nature Conservation Ministers, which is concerned with preservation of wildlife and the establishment and management of national parks; and the Australian Water Resources Council which is concerned with the assessment, development and use of national water resources.

Special arrangements have been made for minimising the environmental impact of uranium developments in the Northern Territory. An Office of the Supervising Scientist has been established under Commonwealth legislation. The Supervising Scientist has overall responsibility for the co-ordination and supervision of measures for the protection and restoration of the environment in the Alligator Rivers Region from the effects of uranium mining. The Supervising Scientist also manages the Alligator Rivers Region Research Institute.

Meteorology

The Bureau of Meteorology, which is a Division of the Department of Science and Technology, is the national authority for providing weather forecasting and warning services, and general meteorological information and consultative advice. Users of these services include the general public, defence forces, civil aviation and marine authorities, and specialist groups in primary and secondary industries.

Programs of research are carried out in support of these services, often in co-operation with other institutions concerned with meteorological science including universities and the CSIRO. The Australian Numerical Meteorology Research Centre, which specialises in the development of numerical model techniques for predicting atmospheric behaviour, is operated jointly by the Department of Science and Technology and CSIRO.

Total expenditure by the Bureau in 1979-80 was approximately \$40.4 million.

Ionospheric Prediction Service

The Ionospheric Prediction Service (IPS) Branch of the Department of Science and Technology exists to assist users of radio communications to achieve the most effective and efficient use of radio transmissions that are influenced by or dependent on the ionosphere. The staff of the Branch make regular measurements of the ionosphere above Australia and its territories, and of the sun, and issue both short and long term predictions of the state of the ionosphere as it applies to radio communication.

Research into physical phenomena affecting the condition of the ionosphere forms part of the regular activity of the IPS.

Satellite remote sensing

In 1978 the Commonwealth Government decided to establish facilities for receiving and processing information from the U.S. National Aeronautics and Space Administration's series of Landsat satellites. The Department of Science and Technology manages the project. A data acquisition station has been established at Alice Springs and a data processing facility has been installed in Canberra. Additional information on Landsat stations is provided at pages 722-4 of Year Book No. 64.

Scientific and Technological Information Services

Scientific literature and technical information for scientists and technologists is provided through library and information services provided by the Commonwealth of Australia, State instrumentalities, tertiary institutions and industrial organisations. The more important scientific libraries and information services within the Commonwealth sector are the Australian National Scientific and Technological Library, the CSIRO Central Library, the library and information services maintained by the Department of Health and that of the Australian Atomic Energy Commission.

Several Commonwealth Agencies including the Australian Atomic Energy Commission, the CSIRO, the Department of Science and Technology and the National Library of Australia are now offering Australian users access to overseas bibliographic data bases. The Overseas Telecommunications Commission is operating an international data transmission service known as MIDAS (Multi-mode International Data Acquisition Service) which has facilitated low-cost access to international data stores.

Another overseas trend now arousing interest amongst Australian scientists is the development of numerical data bases which provide quick access to factual data. The CSIRO is currently operating Thermodata, a metallurgical thermodynamic data base, and is in the process of developing other similar data bases in a crystallography and mass data spectra. Similar numeric and factual data bases are at present being evaluated by other Commonwealth agencies.

A number of Australian scientific and technological indexes and directories now exist or are in the course of production by Commonwealth Government departments and agencies. Four recent initiatives are:

- a Directory of Technical Information Sources for Industry which has been produced by the National Library of Australia; and
- a directory of Australian research projects undertaken in the natural sciences and selected social sciences in the Higher education sector. The directory, in microfiche form, was produced by the Department of Science and Technology (in conjunction with its work on Project SCORE) and the CSIRO;
- a machine based register of Australian energy R, D & D projects providing a technical description of each project is being developed by the Department of National Development and Energy as part of a National Energy Information System (NEIS);

- a Commonwealth Regional Renewable Energy Resources Information System (CRRERIS) is being developed by the Department of National Development and Energy as an outcome of the Commonwealth Heads of Government Regional Meeting (CHOGRM) of February 1979.

Units and Standards of Physical Measurement

The National Standards Commission, originally established in 1948 and given further responsibilities under the *Weights and Measures (National Standards) Act* 1960, advises on matters relating to weights and measures such as the establishment and use of uniform units and standards of measurement of physical quantities. The Commission is also responsible for the examination, approval and certification of the design and performance of patterns of measuring instruments used for trade, Australian participation in the preparation of international standards applicable to legal metrology and their subsequent adoption, and liaison with State government on the regulation of weighing and measuring practice in trade.

Major government research agencies

Commonwealth Scientific and Industrial Research Organization (CSIRO)

The CSIRO is the largest scientific research organization in Australia. It has a total staff of some 7,000 people located in more than 100 laboratories and field stations throughout Australia. About one-third of the staff are scientists.

The CSIRO is a statutory body established by the *Science and Industry Research Act* 1949. Under the Act CSIRO replaced, but had continuity with, the former Council for Scientific and Industrial Research (CSIR) which was established in 1926. The *Science and Industry Research Act* 1949 as amended by the *Science and Industry Research Amendment Act* 1978 provides that the functions of CSIRO are:

- to carry out scientific research for any of the following purposes:
 - (i) assisting Australian industry;
 - (ii) furthering the interests of the Australian community;
 - (iii) contributing to the achievement of Australian national objectives or the performance of the national and international responsibilities of the Commonwealth;
 - (iv) any other purpose determined by the Minister;
- to encourage or facilitate the application or utilization of the results of such research;
- to act as a means of liaison between Australia and other countries in matters connected with scientific research;
- to train, and to assist in the training of, research workers in the field of science and to co-operate with tertiary-education institutions in relation to education in that field;
- to establish and award fellowships and studentships for research, and to make grants in aid of research for a purpose referred to in scientific research above;
- to recognise associations of persons engaged in industry for the purpose of carrying out industrial scientific research and to co-operate with, and make grants to, such associations;
- to establish, develop and maintain standards of measurement of physical quantities and, in relation to those standards—
 - (i) to promote their use;
 - (ii) to promote, and participate in, the development of calibration with respect to them; and
 - (iii) to take any other action with respect to them that the Executive thinks fit;
- to collect, interpret and disseminate information relating to scientific and technical matters; and
- to publish scientific and technical reports, periodicals and papers.

The Act provides for CSIRO to be governed by an Executive comprising a full-time Chairman, two other full-time Members and between three and five part-time Members. It also provides for a statutory Advisory Council and State Committees as independent sources of advice to the Executive.

The CSIRO's research is carried out in some thirty seven divisions and five smaller units. The divisions and units are grouped into the following five Institutes:

Institute of Animal and Food Sciences Divisions of Animal Health, Animal Production, Food Research, Human Nutrition; Centre for Animal Research and Development; Molecular and Cellular Biology Unit; Wheat Research Unit.

Institute of Biological Resources Divisions of Entomology, Fisheries & Oceanography, Forest Research, Horticultural Research, Irrigation Research, Plant Industry, Tropical Crops & Pastures, Wildlife Research.

Institute of Earth Resources Divisions of Applied Geomechanics, Land Resources Management, Land Use Research, Mineral Chemistry, Mineral Engineering, Mineralogy, Mineral Physics, Process Technology, Soils; Fuel Geoscience Unit, Physical Technology Unit.

Institute of Industrial Technology Divisions of Applied Organic Chemistry, Building Research, Chemical Technology, Manufacturing Technology, Mechanical Engineering, Protein Chemistry, Textile Industry, Textile Physics.

Institute of Physical Sciences Divisions of Applied Physics, Atmospheric Physics, Chemical Physics, Cloud Physics, Computing Research, Environmental Mechanics, Materials Science, Mathematics and Statistics, Radiophysics; Australian Numerical Meteorology Research Centre.

There is also a Bureau of Scientific Services comprising the Central Information, Library and Editorial Section, the Centre for International Research Co-operation and various groups concerned with information and technology transfer.

The CSIRO has an annual budget of more than \$170 million. Some 85 per cent of this money is provided directly by the Commonwealth Government. The remainder is contributed by trust funds concerned with the wool, meat, wheat, dairying, fishing and dried fruit industries, by individual companies, by Australian and overseas government instrumentalities, and by private foundations. The trust funds constitute approximately two-thirds of these contributory funds. They are derived principally from industry levies supported by Commonwealth Government contributions.

The Australian Atomic Energy Commission (AAEC)

For information on AAEC see Chapter 18, Energy.

Antarctic Division, Department of Science and Technology

Australia has been active in research and exploration in the Antarctic region since early in the present century, but the overall effort has expanded appreciably since the 1940s when the Government established the Australian National Antarctic Research Expeditions (ANARE) operated by the Antarctic Division.

The Antarctic Division of the Department of Science and Technology administers, organises and provides logistic support for Australian activities in Antarctica, including the maintenance of three Antarctic stations (Mawson, Casey and Davis) and one sub-Antarctic station on Macquarie Island.

The Australian Antarctic scientific program encompasses research in the fields of marine and terrestrial biology, oceanography, earth sciences, glaciology, cosmic ray and upper atmosphere physics, meteorology, bathymetry, medical research, surveying and mapping. Each year, the Antarctic Division, universities and private and public research organisations are invited to submit research proposals to the Antarctic Research Policy Advisory Committee.

Australia is a signatory to the Antarctic Treaty, and many of its scientific activities in Antarctica are undertaken in collaboration with other signatory countries.

Productivity Development Division, Department of Science and Technology

The Productivity Development Division of the Department of Science and Technology fosters increased productivity in industry and commerce by stimulating and encouraging productivity improvement at the national and industry levels. It performs a catalytic and co-ordinating role in bringing together the parties (employers, employees and government) concerned with productivity development. It is responsible for technology development programs directed towards the development and utilisation of new or improved technologies, such as the Assistance to Inventors Scheme, Patent Information Services, and the promotion of industrial research and development. It also promotes technology development by encouraging the use of modern technology by industry and the commercial development of major Australian innovations by Australian industry; it assists the development of process technologies to increase the competitiveness of sectors of Australian industry, and assists the development and exploitation of Australian inventions.

The Division is involved with a number of technology transfer programs designed to assist industry in making the most effective use of existing and developing technology. These programs include quality development, in which the Division works closely with the Standards Association of Australia, the Industrial Design Council of Australia, and the Australian Organisation of Quality Control; information technology and the active participation and support of the Information Technology Council; and a technical referral network being established in conjunction with the Technology Transfer Council.

Other activities of the Division related to technology include specific productivity programs; materials handling (National Materials Handling Bureau); administration of the Australian Government's offset policy designed to stimulate technological advancement and broaden the capabilities of Australian industries; and programs in the physical, social and organisational aspects of the working environment which help to facilitate the introduction of new technology. The Division also supports the Productivity Promotion Council of Australia.

Australian Institute of Marine Science (AIMS)

The AIMS has been established on a 190 hectare site within a national park at Cape Ferguson, 50 kilometres south of Townsville in North Queensland. Comprehensive headquarters facilities were opened in September 1977 and include laboratories, lecture theatre, library, computer centre, administrative and other support services. A harbour for the Institute's vessels was completed in April, 1976. A 24.4 metre ocean-going research vessel constructed specifically for the Institute was delivered during October 1978.

The Institute is essentially concerned with research and emphasises multidisciplinary projects, many of which are focussed on tropical marine science. Research projects at the AIMS during 1979-80 fell into 3 areas: estuarine and oceanic marine food webs; reef-building organisms and the Great Barrier Reef and marine pollution. These areas were selected both for their current importance to marine science and for their relevance to many applied problems. Specific programs being undertaken by the Institute concern: inshore ecology and productivity; pelagic biology; coral taxonomy; coral calcification; reef origins and maintenance; sedimentology; and physical oceanography.

Defence Science and Technology Organisation

The Defence Science and Technology Organisation, Department of Defence, conducts a significant amount of research and development, mainly in engineering and the physical sciences. Current expenditure is about \$104 million per year.

Further details on the work of the organisation are found in Chapter 4, Defence.

Technology Division, Department of Housing and Construction

To support its operations as the major design and construction authority for the Commonwealth, the Department of Housing and Construction carries out applied research and laboratory testing and provides a comprehensive range of technical services. In many cases, these services directly or indirectly benefit the needs of private industry and the public generally.

Research and special testing is conducted mainly by the Technology Division at establishments such as the Experimental Building Station in Sydney, which specialises in building and building components, and the Central Investigation and Research Laboratory in Melbourne, which specialises in engineering materials and products.

Telecom Australia Research Laboratories

Telecom Australia maintains significant facilities and a staff of approximately 500 for research in telecommunications science and technology.

Research by business enterprises

Expenditure on research and experimental development performed by business enterprises in 1978-79 was estimated to be \$244 million at current prices. This represents a 20 per cent increase in expenditure compared with 1976-77. At constant (average 1974-75) prices R & D expenditure is estimated to have increased by one per cent over the same period.

The Government provides funding to encourage industrial research and development (IR and D) under the provisions of the *Industrial Research and Development Incentives Act* 1976. Two types of grants are payable under the Act: commencement grants to encourage companies to develop a basic R & D capability; and grants designed to give on-going support for companies with established IR and D facilities to undertake specific IR and D projects showing technical and commercial promise. In 1980-81 commencement grants will be paid at the rate of 50 per cent of eligible expenditure up to a ceiling of \$40,000, and project grants at 50 per cent of eligible expenditure up to a ceiling of \$750,000. In addition the Minister for Science and Technology is empowered under the Act to approve full funding of projects considered to be in the 'public interest'. \$58.6 million was appropriated in the 1980-81 Budget for the Industrial Research and Development Incentives Scheme and other associated industry technology programs. The Government intends that a greater proportion of its own research will be contracted out to industry. In addition, support for new and existing research Associations will be increased.

The Assistance to Inventors' Scheme, which received an allocation of \$76,000 in the 1980-81 Budget, provides financial grants to individual inventors to enable them to develop worthwhile inventions, after patent application, to the prototype or demonstration stage. Grants of up to \$10,000 can be provided for each invention, as well as technical, industrial or commercial advice on how to develop the invention. Government assistance for research and development by private industry is also available through grants from the *National Energy Research Development and Demonstration Council* (NERDDC) (see page 429 of the Energy chapter for additional information on NERDDC) and the *Australian Research Grants Committee*.

Payments Overseas for Technical Know-How

Australian R & D efforts have been significantly supplemented by overseas technology largely associated with the activities of foreign firms. Australian firms in many industries have bought or licensed foreign technology. The ABS has estimated on a preliminary basis that payments remitted overseas by private business enterprises for technological know-how (e.g. patent licences, technical data and information and scientific, technical or engineering assistance) were \$109.5 million in 1978-79 while Australia received \$11.4 million for this category of technology. The adoption by industry of new technology also attracts financial support from the Commonwealth through the *Industrial Design Council of Australia* and the *Standards Association of Australia* which receive subsidies from the Commonwealth Government.

Metric Conversion

The conversion to the metric (SI) system of weights and measures is now well advanced in Australia. The conversion program has been developed and implemented under the guidance of a Metric Conversion Board established by the Commonwealth Government. The Board considers that the conversion was effectively achieved by 1980 as originally envisaged, although it has always been recognised that some residual use of imperial units will continue for a time thereafter, e.g. in association with equipment of long life. The implementation of the program has depended in large measure on general community co-operation. The Board sought and gained assistance from advisory groups representative of all sectors of the community.

The Australian Patent Information Service

The Australian Patent Information Service has recently been formed with the major purpose of making Australian industry aware of the wealth of technological information contained in the world collection of patent specifications held by the Patents Office. The Service is available to assist industry to gain access to this information by providing copies of patent specifications (Australian and foreign), covering the relevant area(s) of technology in which an inquirer is interested.

Industry organisations

A number of organisations aiming, wholly or in part, to support and encourage R & D have been established within industry. By far the majority support sectional interests. Examples of such organisations are the Bread Research Institute and the Australian Mineral Industries Research Association.

Research in universities and colleges

General financial support for Higher education is provided primarily by the Commonwealth Government through the Councils of the Tertiary Education Commission (the Universities Council; and Technical and Further Education Council; and the Advanced Education Council).

In addition, the Government funds research undertaken in the universities and elsewhere through a number of granting schemes. In some cases, Commonwealth Government funds are supplemented by State governments or by levies imposed on or by specific industries (e.g. the wool, wheat and beef industries) for that purpose.

The two principal granting schemes through which supplementary funds are made available for research in universities are those administered by the Australian Research Grants Committee (ARGC), and the National Health and Medical Research Council (NHMRC). For both schemes the principal criteria for awards are the scientific excellence of the applicant and the research project. Applications are judged by expert advisory committees composed of practising scientists, and recommendations are made to the Minister for Science and Technology and the Minister for Health for the ARGC and NHMRC awards respectively.

The Commonwealth Department of Health administers the Health Service Research and Development Grant program which provides grants to researchers in educational and health institutions and to independent researchers. The Department receives advice from the Health Services Research and Development Grants Advisory Committee.

Fellowships such as the Queen Elizabeth the Second Fellowships and the like, while providing some additional funds, are significant more for the prestige they carry than for their contribution to overall funding levels. They are, however, more readily available to the young scientists than are the ARGC awards.

Colleges of Advanced Education do not maintain expensive research facilities or programs akin to those of the universities; nevertheless, staff are encouraged to undertake research to the extent that this is possible. Research of an applied nature, and associated consultancy services to industry and commerce, are expected to become increasingly prominent within the colleges.

Research organisations associated with education institutions

Several of the tertiary education institutions have established independent, commercial companies to promote and manage research and consultancy services to industry, commerce, government and the community. Examples are: Unisearch Ltd, associated with the University of New South Wales; Wait-Aid Ltd, associated with the Western Australian Institute of Technology; Technisearch Ltd, associated with the Royal Melbourne Institute of Technology; SARD, associated with the Swinburne College of Technology; Techsearch Inc., associated with the South Australian Institute of Technology; and TUNRA, the University of Newcastle Research Association.

These organisations play an important role in promoting communication between the Higher education and other sectors. They undertake investigational and research projects, mainly in the fields of engineering and science. However, activities in other fields such as management, marketing and the social sciences are increasing. Testing work, performed generally by full-time employees, is undertaken in some instances. Results of work are confidential to the client and are not published unless authorised by that client.

Social science research

Research in the social sciences is undertaken primarily in universities and agencies of the Australian and State governments. Financial support for research in non-government bodies, especially universities, is provided by government. This support comes both from general funds, provided to the universities and also from specific granting bodies such as the ARGC and the Australian Advisory Committee on Research and Development in Education.

The bulk of social science research carried out within Commonwealth Government agencies is performed as part of the general activities of various departments. However, several agencies have been established specifically to undertake research. Agencies which have been established to undertake research in particular areas include the Australian Institute of Aboriginal Studies, the Australian Institute of Criminology, the Bureau of Agricultural Economics and the Bureau of Transport Economics.

Agencies of the various State governments undertake research relevant to their own activities and programs especially related to health, youth and community services. A number of research organisations in the transport spheres are funded from both Commonwealth and State sources. The Australian Railway Research Board and the Australian Railway Research and Development Organisation are active in social science research.

Exchange of ideas and information on the social sciences is promoted through a number of professional and learned bodies, of which the Australian and New Zealand Association for the Advancement of Science and the Academy of the Social Sciences in Australia are the most broadly based. In addition to encouraging the advancement of the social sciences, the Academy sponsors and organises research, subsidises publications and acts as a consultant and advisor on the social sciences.

Non-government bodies which undertake or promote research in specific fields of the social sciences include the Australian Institute of International Affairs, the Australian Institute of Urban Studies, and the Australian Institute of Political Science.

International activities**International Organisations**

Australia participates in a range of programs and projects of United Nations and other organisations (UNEP, UNESCO, WMO, OECD and IEA) and in the activities of both governmental and non-governmental scientific organisations. To facilitate scientific liaison and representation, the Commonwealth Government has scientific representation at overseas posts (Tokyo, London, Washington, Vienna (IEA), Paris (OECD)). Australia also participates in regional collaborative programs organised by ESCAP, the Association for Science Cooperation in Asia, the Commonwealth Science Council and the Pacific Science Association. Technical assistance is also provided for countries in the region under both multilateral and bilateral arrangements.

Participation in international non-governmental scientific bodies is arranged through learned and professional bodies. For example, the Australian Academy of Science provides representation to the International Council of Scientific Unions (ICSU) and a number of its affiliated bodies.

Studentships and Fellowships

Australia has assisted other countries, principally in the Asian and Pacific regions, by training their nationals. Large numbers of such students, mainly seeking first qualifications at tertiary level, have been accommodated under schemes such as the Colombo Plan. There are also arrangements under which established scientists from overseas are assisted to undertake study and research in Australia.

Bilateral arrangements

Various bilateral arrangements at both government and non-government levels have contributed to the development and maintenance of co-operation in science and technology between Australian institutions and scientists and those in other countries. Formal bilateral agreements solely devoted to scientific and technological co-operation have been entered into with the USA (1968), India (1975) and the Federal Republic of Germany (1976) and are administered by the Department of Science and Technology. Similar agreements with the USSR (1975 activities suspended) and the People's Republic of China (1980) are administered by the Department of Foreign Affairs. Support is provided for both individual visits and specialist seminars over the whole range of civil science. Where opportunities exist, other cooperative projects which depend on special facilities are supported.

A scientific exchange program between the Australian Academy of Science and the Academia Sinica of Peking was initiated in 1976-77. Scientific fields considered most promising are plant physiology, entomology and earth science. A similar exchange program between the Australian Academy of Science and the Japan Society for the Promotion of Science was also initiated during 1977.

Visits to Japan and China by Australian scientists can be supported by the Australia/Japan Foundation and the Australia/China Council.

Meteorology

Australia is a Member of the World Meteorological Organisation (WMO), with the Director of Meteorology being Australia's Permanent Representative on WMO.

Astronomy

In the field of optical astronomy, the Anglo-Australian Telescope Board, established under the provisions of an international agreement between Australia and the United Kingdom and drawing its funds in equal shares from each country, operates the 3.9 metre Anglo-Australian Telescope at Siding Spring Mountain near Coonabarabran in New South Wales. The Telescope, among the largest in the world, came into full scientific operation during 1975. Its technical excellence and the scientific work which it has made possible have brought it to be widely recognised as the world's foremost optical telescope.

Space

An agreement was signed in 1960 and has been renewed at ten-year intervals by the Governments of Australia and the United States of America to co-operate in the establishment and operation in Australia of space vehicle tracking stations. The agencies for the Australian and American Governments are the Department of Science and Technology and the National Aeronautics and Space Administration (NASA) respectively.

As part of the world-wide network supporting NASA's space program, the stations track spacecraft in their orbits around the earth or on their journeys into space, receive telemetered data from the spacecraft, and relay radio commands controlling the spacecraft.

The Department of Science and Technology is responsible for managing, staffing and operating the tracking stations on behalf of NASA. The stations are located at Orroral Valley, Honeysuckle Creek and Tidbinbilla in the Australian Capital Territory. A communications system links them with control centres in the United States of America.

Expenditure by NASA on its tracking station operations in Australia in 1979-80 was approximately \$12.5 million.

An agreement has been signed between the Commonwealth Government and the European Space Agency (ESA) for the establishment and operation of a space vehicle tracking facility in Australia in support of ESA programs. The facility is located at the site of the Overseas Telecommunications Commission (Aust) earth station at Carnarvon, W.A.

Scientific Ballooning

The Department of Science and Technology operates a Balloon Launching Station at Mildura, Vic. to provide a service to scientists conducting experiments based on balloon borne platforms. Since 1975 the Station has operated as a joint venture with the US National Science Foundation. The annual agreement between the two agencies was not renewed in 1980 and the Department of Science and Technology will withdraw from the Station during 1981. Alternative means of providing a scientific ballooning service in Australia are currently being investigated.

Seismology

A comprehensive seismic station at Alice Springs (Joint Geological and Geophysical Research Station) is operated jointly under an agreement between the Governments of Australia and the United States of America. The agencies for the Governments are, respectively, the Department of Science and Technology and the United States Air Force.

The station provides continuous seismic records to assist the United States Government in the identification of underground nuclear explosions and, through the Department of Science and Technology provides seismic records to the Bureau of Mineral Resources, Geology and Geophysics. Records are also available, through the Department of Science and Technology, to Australian scientists for research in earth physics.

Defence

In the field of defence science, Australia collaborates with other countries through a variety of arrangements at intergovernmental level. Further information is given in Chapter 4, Defence.

Transport

Australia is represented at Federal and State levels on a number of transport research-orientated international organisations through a variety of arrangements at intergovernmental level. Further information is given in Chapter 20, Transport and Communication.

Other

At the non-governmental level, formal arrangements for scientific co-operation with counterpart institutions in other countries have been concluded by a number of Australian bodies. For example, an arrangement covering co-operation in astronomy exists between the University of Sydney and Cornell University (USA), while over a broader area the Australian National University has an arrangement with the University of Moscow which includes exchanges in the scientific fields.

Additional information

Additional information on topics presented in this chapter may be found in the annual reports of the organisations mentioned, particularly the Department of Science and Technology, the CSIRO and its divisions, the Australian Atomic Energy Commission, and the Department of Defence. Statistical information for the years 1968-69, 1973-74 and 1976-77 may be found in the reports published by the Department of Science and Technology on Project SCORE. Statistical information on R & D performed by Private enterprises for 1976-77 may be obtained from the Australian Bureau of Statistics publication *Research and Experimental Development—Private Enterprises, 1976-77* (8104.0). The ABS has published, for the 1978-79 biennial surveys of Project SCORE, details on R & D performed in the Business enterprise, General Government, Higher education and Private non-profit sectors.

Also relevant are reports published by the former Office of Secondary Industry of the Department of Trade and Industry (*Survey of Industry Research and Development in Australia* (1968-69) and by the former Department of Manufacturing Industry (Bulletin No. 11, November 1974 *R & D in Manufacturing Industry* 1971-72).

Information on manufacturing industry research and development is contained in Chapter 6, Vol. 1A of ASTEC's report on *Science and Technology in Australia* 1977-78 (June 1978) Chapter 7, Vol. 1 of the Report of the Study Group on Structural Adjustment (March 1979) and the Report of the Senate Standing Committee on Science and the Environment on *Industrial Research and Development in Australia* (May 1979).

CHAPTER 26

CULTURE, RECREATION AND TRAVEL

This chapter is divided into three major sections:

- The cultural activities section consists mainly of a description of cultural organisations and some statistical information concerning financial assistance for the arts.
- The recreation section comprises descriptive information provided by the Department of Home Affairs and Environment on major aspects of leisure: community recreation, fitness, sport development and information on youth affairs provided by the Department of Employment and Youth Affairs. Information on tourism is provided by the Department of Industry and Commerce. This section also includes the results of a Census of Tourist Accommodation Establishments for the year ended 30 June 1974, and quarterly accommodation surveys conducted by the Australian Bureau of Statistics.
- The travel section consists mainly of statistics concerning overseas visitors to Australia and Australian residents departing overseas. There is also a short note about travel within Australia.

CULTURAL ACTIVITIES

Cultural organisations and financial assistance for the arts

In Australia the arts are given financial support on several levels. The main sources of subsidy are the Commonwealth and State governments, but support has been increasing recently from local governments and universities. Support from private sources is still limited, but inclusion of the arts in the benefits of private foundations and sponsoring of awards and scholarships is gradually increasing. While support is received indirectly through government educational, cultural and other public service instrumentalities, three organisations have played a significant role in serving and financing the arts: the Australia Council, the Arts Council of Australia, and the Australian Elizabethan Theatre Trust.

The Australia Council

Established in March 1975, the Australia Council is a statutory authority which advises the Commonwealth Government on the arts and undertakes programs to sustain and promote the arts.

Apart from the Council itself, which has 19 members, there are seven specialist Boards: Aboriginal Arts, Community Arts, Crafts, Literature, Music, Theatre, and Visual Arts. The Boards each consist of between six and eight members, except for the Aboriginal Arts Board which has between eight and ten. The Boards are the main source of policy initiatives in their field. A more complete resumé of the activities of these Boards was published in Year Book No. 64. The Council also administers the Public Lending Right Scheme of payments to Australian authors and publishers.

Following further amendments to the Australia Council Act in 1980, the membership of the Australia Council will be reduced to a range of between 10 and 14 members, and responsibility for the Public Lending Right Scheme will be transferred to the Department of Home Affairs.

COMMONWEALTH GOVERNMENT FUNDS ALLOCATIONS TO THE AUSTRALIA COUNCIL (\$ million)

<i>Year</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1980-81</i>
<i>Budget</i>	<i>23.74</i>	<i>25.54</i>	<i>26.30</i>	<i>29.38</i>

**ALLOCATION OF FUNDS FOR PROGRAMS, BOARDS AND ADMINISTRATION OF THE AUSTRALIA
COUNCIL, 1980-81
(\$'000)**

The Australian Ballet Foundation	1,456
The Australian Opera	3,034
The Australian Elizabethan Theatre Trust Orchestras	2,492
Public Lending Right Scheme	1,250
Council Programs	1,202
Aboriginal Arts Board	1,652
Community Arts Board	2,016
Crafts Board	1,228
Literature Board	1,623
Music Board	1,596
Theatre Board	6,495
Visual Arts Board	1,385
Administration	3,950
Total	29,379

The Arts Council of Australia

The Arts Council of Australia was founded in 1947. (It should not be confused with the Australia Council already mentioned in this chapter, which is a national government agency for assistance to the arts).

The Arts Council of Australia is an independent non-government, incorporated body. It has a unique structure of volunteer and professional networks throughout Australia. Each State and Territory has an Arts Council Division which is autonomous and a professional office in each capital city (except Tasmania—Devonport). There are 250 local branches primarily, but not exclusively, in country areas.

The major functions of the Arts Council are: to tour the performing arts to school and adult audiences in country areas; to tour exhibitions; to run weekend and vacation workshops in all aspects of the arts; to stimulate and co-ordinate community arts activities.

During 1979, the Arts Council arranged 6,474 performances which reached a total audience of 1.3 million. Box office takings for 1979 amounted to \$1.8 million.

The Arts Council of Australia and its Divisions are funded by State Government arts authorities and the Community Arts Board of the Australia Council.

Australian Elizabethan Theatre Trust

The Australian Elizabethan Theatre Trust, which was established in the mid 1950s, was originally formed to present drama, opera, ballet and puppetry throughout Australia. Full autonomy has now been accorded to most of the performing companies established by the Trust. The Trust's major functions now are to administer the Elizabethan Trust Orchestras; to act as entrepreneur in the touring of theatre features from overseas and Australian sources; and to provide general services in communication for theatre organisations.

The Trust receives annual grants from the Commonwealth Government through the Australia Council and from State and local governments. Its revenue is supplemented by subscriptions, donations and its own activities.

The National Estate

The Australian Heritage Commission

The Committee of Inquiry into the National Estate, which reported to the Commonwealth Parliament in August 1974, recommended the establishment of a permanent commission to be the Government's policy and advisory body on National Estate matters.

The Act to establish the Australian Heritage Commission was assented to in June 1975, and amended in 1976. The Commission consists of a part-time independent Chairman and six part-time Commissioners with various skills and interests in the natural and cultural environment. Research and secretariat services for the Commission are provided by a staff of professional and clerical officers permanently located in Canberra.

The Commission's responsibilities are to advise the Minister for Home Affairs and Environment on all matters related to the National Estate; to prepare a Register of National Estate places; to develop policies and programs for education, research, professional training and public interest and understanding in fields related to the national estate; and to administer any gifts and bequests made to the Commission.

To date approximately 6,700 places have been entered in the Register of the National Estate. They are places with National Estate significance, relating to the natural environment or to Aboriginal or European culture.

Australian National Trusts

The Australian National Trusts were founded to further the conservation of lands, buildings, works, and articles which are of national importance because of educational, aesthetic, historic, architectural, artistic, scientific, cultural, or other special interest.

The first National Trust, the National Trust of Australia (New South Wales), was formed in 1945. Since then, National Trusts have been formed in each of the other States, the Northern Territory and the Australian Capital Territory.

Membership of the National Trusts is open to all individuals and organisations. Total membership throughout Australia is approximately 65,000. The Trusts are financed by members' subscriptions and donations from individuals and commercial and industrial organisations; the proceeds of charges for entry to Trust properties; and the fund-raising activities of members, including inspections of historic buildings and towns, archaeological sites and places of natural beauty. Each State National Trust receives financial support from the Commonwealth Government in the form of an administrative grant-in-aid of \$30,000 each per annum, and each receives support from its State Government.

The Australian Council of National Trusts was incorporated in 1965 to co-ordinate the activities of the State National Trusts and represent them at federal and international level. The Commonwealth Government supports the Council through an annual grant of \$60,000 for administrative purposes and also provides support to the Council and State Trusts through taxation concessions.

Since 1973, the National Trusts have received Commonwealth grants under the National Estates program for capital projects, mainly for the restoration of buildings and conservation studies. They have also supervised projects of other organisations financed under the program.

The number of properties owned or controlled by the Trusts exceeds 200. These include houses, nature reserves, gardens, two paddle steamers and an iron barque, an historic hamlet, and buildings which were formally a telegraph station, a stock exchange, a powder magazine, a market, an inn, a police station, a court house, a gaol and a joss house.

The Trusts have established registers of 18,000 places including buildings, urban areas, landscapes and industrial sites which they consider should be conserved as part of the national estate.

Historic Memorials Committee

The Historic Memorials Committee was established in 1911 for the purpose of securing portraits of distinguished Australians who had taken an active part in Federation. Later the Committee decided to obtain portraits or other representations of all Governors-General, Prime Ministers, Presidents of the Senate, Speakers of the House of Representatives, Chief Justices of the High Court of Australia and other distinguished Australians. In addition, the Committee has commissioned paintings recording special events connected with the Commonwealth Parliament and, more recently, the High Court of Australia.

The Committee comprises the Prime Minister (Chairman), the President of the Senate, the Speaker of the House of Representatives, the Vice President of the Executive Council, the Leader of the Opposition in the House of Representatives, and the Leader of the Opposition in the Senate. The Committee is advised on commissioning of portraits by the Visual Arts Board of the Australia Council. The Secretary to the Committee is provided by the Department of Home Affairs and Environment, Canberra.

The performing arts

Festivals

The number of festivals devoted solely or partly to the arts now total about 400 a year. The two biggest are Adelaide's biennial and Perth's annual festivals, both of which last several weeks and present overseas artists as well as leading Australian companies. Victoria's large popular festival, 'Moomba', has a substantial arts program.

Many country centres now have arts festivals which attract performers and artists from a wide area. Purely amateur and competitive performances are being infused with increased professionalism. Seminars, arts workshops and community participation programs are increasingly popular.

Theatre

Commercial theatre organisations and entrepreneurs present musicals and plays and bring to Australia overseas companies such as the Royal Shakespeare Company and the Moscow Circus.

Opera

The Australian Opera was created in 1956 and, until late 1969 when it formed its own Board of Directors, was known as the Elizabethan Trust Opera Company. In September 1973, the Australian Opera opened its first season in the new Sydney Opera House. It employs a chorus of 50 singers and 36 principals on a permanent basis.

The 1980 budget for the Australian Opera was \$9,596,000. This does not include the cost of the orchestras. Of this total, approximately \$4,301,000 comes from State and Commonwealth subsidies or from donations from individuals or industry. The Commonwealth grant was \$2,800,000. The remainder was met from box office receipts and other earned income.

Attendance levels in Sydney are currently at very high levels (92% of capacity in the 1980 Sydney Summer Season, excluding seats of a very restricted view).

Co-operation with Queensland and Victorian authorities is geared towards the new arts centres in Brisbane and Melbourne, which are presently under construction.

Ballet

The Australian Ballet Foundation was formed in 1961 by the Australian Elizabethan Theatre Trust and J. C. Williamson Theatres Ltd to establish a national ballet company, which gave its first performance on 2 November 1962. On 16 October 1970, the Australian Ballet Foundation was registered as a company limited by guarantee and a licence is held under section 24 of the *Victorian Companies Act* 1961 (as amended) to dispense with the use of the word "Limited".

The Australian Ballet receives subsidies from the Commonwealth Government (through the Australia Council), the six State Governments and major municipal bodies. It also receives support from private corporations and individuals. The Australian Ballet has its headquarters and studios in Melbourne. In fulfilment of its national commitments, the company gives more than 200 performances throughout the Commonwealth each year. It has undertaken eleven extensive international tours, the most recent being that to the People's Republic of China in June 1980.

The 1979 operating and other expenses of the Australian Ballet were \$5,278,000; of this amount \$1,354,000 was met by Commonwealth Government subsidy, \$292,000 by grants from State governments and \$43,100 from the Department of Foreign Affairs. This figure does not include the services of the Elizabethan Trust Orchestras which perform with the Ballet.

Music

The Music Board of the Australia Council is responsible for administering Commonwealth Government assistance to music and opera. Assistance is provided for a wide range of music activities, one of the most important being the development of Australian music and interest in the work of Australian composers.

Australia has eight fully professional orchestras. Six symphony orchestras have been established—one in each State capital. They are managed by the Australian Broadcasting Commission (ABC). Two Elizabethan Theatre Trust orchestras are predominantly engaged in work with the Australian Opera and Ballet. The ABC's Sydney and Melbourne Symphony Orchestras have toured the USA, Asia, Europe and Canada with acclaim.

The ABC also controls a national training orchestra and organises about 750 concerts—both symphony and recital—each year. For further details of the Australian Broadcasting Commission see *Year Book* No. 61, pages 416–18 and 1013.

Musica Viva Australia, a non-profit society receiving financial support from the Music Board of the Australia Council and several State Governments, seeks to increase the performance, knowledge and appreciation of chamber music through subscription concerts, festivals, workshops and education activities. Musica Viva presents concerts by distinguished overseas ensembles and by groups of leading Australian musicians and organises overseas commercial tours for Australia's leading ensembles. The Society manages approximately 800 concerts within Australia and overseas each year.

Film

Australian Film Commission

The Australian Film Commission, established by the *Australian Film Commission Act* 1975, assists Australian film and television producers with funds and services for the production, distribution and exhibition of Australian films and television programs within Australia and abroad. It also provides assistance to film organisations, film-makers co-operatives, media centres and film publications.

The Commission assists in the marketing of Australian films through overseas representatives in London and Los Angeles. Non-theatrical distribution in Australia is arranged with State film distribution agencies and through the National Library of Australia.

Film Australia, a branch of the Commission produces between sixty and seventy films annually with translations into as many as twenty-six languages. These films are made for Government Departments or are made in the national interest.

Film and Television School

The Film and Television School was established as an independent statutory authority by Act of Parliament in 1973 and is governed by a fifteen member Council. It is responsible for advanced film, television, radio and audio-visual communications training throughout Australia.

The School's principal activities are:

Full-time program—a three year full-time course providing professional training for creative positions in the film and television industry. Graduates are awarded a Diploma of Arts, Film and Television.

—a full-time workshop course in screenwriting of up to one year for experienced writers of proven ability;

Open programs—providing, on an Australia-wide basis, training courses of shorter duration including workshops, seminars, lectures and refresher courses for people involved in various film and television crafts, to teachers and educational institutions, for people requiring education and practical training in sound broadcasting and to those in other areas who use or intend to use audio-visual media in their professional work as tools for education, information, documentation or research;

National Graduate Diploma in Media—which offers a one year (or part-time equivalent) Graduate Diploma in Media. This is intended to equip teachers with the knowledge and skills needed to design and implement media curricula in secondary schools and to increase expertise in the use of audio-visual teaching resources. The Scheme presently operates in New South Wales, Victoria, South Australia and Western Australia;

Other Activities—undertaking research to assess training needs and employment opportunities in the industry; the production of training films, sound and video tapes and printed publications; and the maintenance of an extensive collection of film, television, radio and other audio-visual library materials.

Film Censorship

The Commonwealth Government's film censorship powers under the Customs Act extend only to imported films and imported advertising matter. Under that Act the Customs (Cinematograph Films) Regulations provide for the appointment of a nine-member Film Censorship Board whose function is to register films and approve advertising matter unless they fall into certain defined categories. Importers may appeal against decisions of the Film Censorship Board to the Films Board of Review.

The Attorney-General's Department is responsible for film censorship and all States have agreed that the Commonwealth Boards should be the censorship authorities for the purpose of the State Acts.

Thirty-five mm feature films: In 1979, 782 feature films (including 18 Australian films) totalling 1,268 hours running time were examined. Twenty-two feature films were rejected and 15 were cut. There were 8 appeals, all of which were dismissed. Of the 782 features, 108 were classified for General Exhibition ('G'), 167 Not Recommended for Children ('NRC'), 195 For Mature Audiences ('M') and 154 For Restricted Exhibition ('R'). One hundred and thirty six were registered subject to special conditions.

The principal suppliers were United States of America (223 films), Hong Kong (129 films), USSR (64 films), Italy (51 films), France (51 films) and United Kingdom (49 films).

While the 'M', 'N.R.C.' and 'G' classifications are advisory, persons between the ages of 2 and 18 (6 and 18 in Victoria) are excluded by law from seeing 'R' films.

Sixteen mm feature films: Excluding those imported for television use, 198 feature films (including 12 Australian films) totalling 316 hours were examined.

Television films: In 1979, 8,697 films for use on television were examined. These consisted of 4,144 sixteen mm films (totalling 2,887 hours) and 4,286 videotapes (totalling 2,658 hours). The principal suppliers were the United States (5,287 films) and United Kingdom (2,610 films). Of the total imports, 107 films were cut and 37 were classified as unsuitable for television.

Art

The Visual Arts Board

The Visual Arts Board of the Australia Council is responsible for the promotion of excellence in the visual and plastic arts throughout Australia.

In co-operation with the Department of Foreign Affairs, the Board arranges exhibitions of Australian art to tour overseas, and also arranges Australian participation in international art competitions. Exhibitions of important international art tour Australia under the auspices of the Visual Arts Board, sometimes in association with the Australian Gallery Directors' Council.

The Australian National Gallery

The foundation stone for the Australian National Gallery, on the shores of Lake Burley Griffin in Canberra, was laid by the Prime Minister on 7 November 1973. The Gallery building is 23,000 square metres in area. This includes fourteen exhibition galleries taking up 30 per cent of the floor space. The remainder will accommodate theatres and a theatrette, an education section, a library, a conservation laboratory, administrative and workshop areas and stores.

The Australian National Gallery will contain the National Collection of Australian Art and representative collections of the arts of other cultures and times.

The National Collection of Australian Art will be the focus around which other collections will be assembled.

These collections will include:

- European Paintings and Sculptures before 1850
- European and American Paintings and Sculptures 1850–1950
- Contemporary Paintings and Sculptures
- Prints, Drawings and Illustrated Books from 1800
- Film, Video, Audio
- Photography
- Decorative Arts
- Arts of Asia and South-East Asia
- Primitive Art

Nineteen hundred and eighty saw good progress in accordance with the four-year programme submitted to the Government in 1979 to provide an orderly and progressive development of both staff and collections to allow the Gallery to open to the public in 1982–83. Government funding for Gallery operations totalled \$7,500,000 in 1979–80. The exhibition 'Aspects of Australian Art 1900–1940' completed its tour at Benalla, Victoria, in September 1980 after a record two and a half year nation-wide itinerary.

'Genesis of a Gallery Part 2', the second of the Australian National Gallery's exhibitions providing a sample of its collections to major galleries in Australia, ended its two year tour in Sydney in December 1979.

The Gallery's major exhibition project of the year was the organisation of the Eugen von Guérard Exhibition. Also, a major exhibition of contemporary photography was assembled from the Gallery's extensive collection.

Other galleries

Other important art collections are housed in the Australian War Memorial and in public galleries in all State capitals and many of the larger country centres. As well as these galleries there are many municipal and private trust institutions, and university and private collections.

Museums

In each State there is at least one major State-run museum. There are also many smaller museums owned by municipal councils, district and historical societies, private trusts and private individuals. The two major national museums in the Australian Capital Territory are the Australian War Memorial and the Australian Institute of Anatomy.

The Australian War Memorial commemorates Australian Servicemen and women who died as a result of wars or warlike operations, from the Sudan (1885) to Vietnam. The commemorative area includes the magnificent glass-mosaic Hall of Memory, Cloisters containing the bronze panels of the Roll of Honour bearing 102,000 names, and the Courtyard in which there is the Pool of Reflection and a water cascade symbolising eternal life. The names of the 30 main theatres of war in which Australian forces served are inscribed around the Courtyard. The national Anzac Day and Remembrance Day

services attended by the Governor-General are held at the Stone of Remembrance in front of the building. Other wreath-laying ceremonies are also conducted at the Commemoration Stone in the Courtyard.

As well as the nation's Memorial, it is also a significant museum and art gallery, containing some 40,000 war relics ranging from aircraft to buttons and badges, and 12,000 works of art by leading Australian artists, including Nolan, Dobell, Streecon and Lambert. The Memorial's 24 Victoria Crosses are the largest such single collection in the world. The spacious galleries also display mosaics and antiquities dating from around the fifth century, sculptures, dioramas, photographs and documents. In addition, the Memorial contains an extensive library (detailed on page 685), and operates an Education Service providing study units for visiting student groups and information for teachers and students.

The Memorial is a major tourist attraction, receiving about three-quarters of a million visitors each year, including foreign Heads of State, political and Service leaders. Free screenings of historic wartime films are given every weekend and during school holidays and Voluntary Guides are available to provide free conducted tours on weekdays.

The *Australian War Memorial Act* 1980 extended the Memorial's educative role, and upgraded the administration. The Memorial is administered by a Director and Council of up to 13 members and is now responsible directly to the Minister for Home Affairs and Environment.

The Memorial building, opened in 1941 and extended in 1971, is being further extended and the galleries upgraded. A separate conservation and storage annex was opened in 1979.

Literature

National Literature Board of Review

The National Literature Board of Review was established in 1968, following Commonwealth-State agreement, to achieve uniformity in the administration of laws relating to blasphemous, indecent or obscene publications of *prima facie* literary, artistic or scientific merit. In terms of the agreement, the Board is established under the Customs (National Literature Board of Review) Regulations. Appropriate Ministers of any State may, under the Agreement, refer locally published or distributed works to the Board for advice.

Book publishing

Statistics of book publishing are compiled and published by the National Library. The following table shows the number of books and pamphlets (including leaflets) published in Australia since 1972 and received by the National Library to December 1979, classified by State or Territory of publication and by class of publisher.

AUSTRALIAN BOOKS AND PAMPHLETS PUBLISHED BY YEAR OF PUBLICATION

(Source: *Australian National Bibliography, National Library of Australia*)

	Number of titles (a)							
	1972	1973	1974	1975	1976	1977	1978	1979
State or Territory—								
New South Wales	1,713	1,674	1,711	1,888	2,025	2,269	2,427	1,524
Victoria	1,299	1,147	1,321	1,495	1,725	1,914	2,132	1,318
Queensland	316	325	329	371	408	463	423	177
South Australia	379	466	482	637	696	1,051	961	341
Western Australia	277	337	313	353	416	505	344	137
Tasmania	66	107	83	100	135	179	184	49
Northern Territory	15	52	70	99	49	50	44	38
Australian Capital Territory	680	972	1,078	1,277	1,055	1,347	1,300	750
Total	4,745	5,080	5,387	6,220	6,509	7,778	7,815	4,334
Publisher—								
Commercial	1,902	1,777	1,917	2,220	2,375	2,708	3,206	2,324
Commonwealth Government	684	935	1,011	1,217	926	1,301	1,179	670
State Government	708	729	860	966	1,161	1,609	1,377	465
Local Government	29	42	21	26	31	30	36	18
Society, institution, company, private	1,423	1,597	1,578	1,791	2,016	2,130	2,017	857
Total	4,745	5,080	5,387	6,220	6,509	7,778	7,815	4,334

(a) Received by the National Library to December 1979.

Libraries

Australian Government libraries

National Library of Australia, Canberra. The National Library maintains and develops a national collection of library material which is representative of all the major countries of the world. It is also responsible for assembling a comprehensive collection of library material relating to Australia and the Australian people. In fulfilling the latter statutory function, the Library seeks to preserve books, periodicals, newspapers, government publications, pictures, prints, manuscripts, maps, moving picture films, music scores, sound recordings and other material whether in writing or some other form. Under the deposit requirements of the *Copyright Act* 1968, a copy of all library material published in Australia is delivered to the National Library. The Library has also been enriched by the acquisition of such notable collections as the Petherick collection of 16,500 items in 1911, the Cook manuscripts in 1923, the Compston collection on Public Health in Australia in 1936, the Mathews ornithological collection in 1940, the Rex Nan Kivell collection of 16,000 items of Australian and Pacific interest including original paintings, prints, manuscripts, and printed material in 1959, and the Ferguson collection of Australiana in 1970. The Library maintains a permanent exhibition of paintings, prints and other historical material selected from its various collections.

In association with the State Library of New South Wales, the Library is engaged on a microfilming project to copy original records relating to Australia which are held in Great Britain and other overseas countries. The computer-produced *Australian National Bibliography*, which appears weekly, monthly, four monthly and annually, lists books published in Australia and books published overseas dealing wholly or substantially with Australian subjects or written by Australian authors. The publications of the Australian governments included in *Australian National Bibliography* are also listed quarterly and annually in *Australian Government Publications*. A select list of authoritative Australian books of reference and research value is published annually in *Australian Books*. The Library's *Australian Public Affairs Information Service*, published monthly with annual cumulations, is the major periodical index to Australia's political, economic, social and cultural life. *Australian Maps* has been issued quarterly from 1968 with a 10 year cumulation for the period 1961-1973 and annual cumulations from 1974.

The provision of central cataloguing services is an important function of the National Library aimed at achieving cataloguing economies on a national scale. Established in 1967, the Australian Card Service makes available catalogue cards for titles listed in *Australian National Bibliography*. Since 1970, cards for overseas books have been available from the Overseas Card Service. Australian libraries with access to computer facilities can order machine-readable records for Australian and overseas books through the Australian MARC Record Service. The Library also operates the Australian Cataloguing in Publication Program whereby, as a result of the co-operation of many trade and academic publishers, books published in Australia are catalogued in advance of publication and the cataloguing data are printed in the books. These data also appear as preliminary entries in *Australian National Bibliography*, the Australian MARC Record Service and the Australian Card Service.

Co-operative bibliographical activity includes recording, in a series of union catalogues, the holdings of the major Australian libraries. The national union catalogue of monographs was commenced in 1960 and since then all the larger libraries and an increasing number of smaller libraries have reported their monograph accessions to the National Library. This catalogue is now published on microfilm so that duplicate copies can be held in major research and academic libraries in Australia, Papua New Guinea and New Zealand. Access is thus decentralised and speeded. The second major published union catalogue is the continually updated *Serials in Australian Libraries, Social Sciences and Humanities*, which complements another catalogue, *Scientific Serials in Australian Libraries*, published by the Commonwealth Scientific and Industrial Research Organization. Both of these are being automated and eventually will be available in microfilm. Other union catalogues maintained and/or published by the National Library cover manuscripts, newspapers, music and oriental language material. All are described in the *Guide to the National Union Catalogue of Australia* which the Library periodically re-issues.

Since 1969, the Library has operated a number of automated data bases which provide computer-produced bibliographies of recent and current material to users either in printed form or on-line. It also provides access through international links to data bases operated elsewhere.

The National Library acts as a central library of documentary and educational films. Its lending collection of approximately 20,000 films contains both Australian and overseas material on a wide range of topics, while its historical collection constitutes the major holding of Australian film production since its beginning in 1896. Additions to the film lending collection are recorded in *Film Acquisitions* published quarterly with annual cumulations.

The National Library's collection of Australian and overseas material contains more than 2 million volumes and 1.2 million volumes equivalent in microform; 31,000 paintings, drawings and prints; 303,000 photographs; 4,000 shelf metres of manuscripts; 43,000 motion picture film and video cassette titles; 206,000 motion picture stills and lobby cards; 256,000 maps; 500,000 aerial photographs; 52,000 music scores; 340,000 sound recordings and tapes; and more than 5,000 oral history tapes.

Patent Office Library. The library of the Australian Patent, Trademarks and Designs Office in Canberra contains approximately 10,000 books and a wide variety of periodicals and other literature relating to science, technology, industrial property (patents, trademarks and designs), law and practice. Patent specifications of inventions are received from the principal countries of the world. Present holdings are over 15,000,000. An international index to these specifications is available on microfiche. The Australian Patent Information Service works in co-operation with the Library. Its major function is to make Australian industry aware of the wealth of technological information held in the world collection of patent literature and assist them in accessing this information. Australian specifications and related material are also available at Sub-Offices in Brisbane, Sydney, Melbourne, Adelaide and Perth and the State Library in Hobart.

Commonwealth Scientific and Industrial Research Organization (CSIRO). The Central Library was brought into the newly formed CSIRO Central Information, Library and Editorial Section at the end of 1973. Its holdings cover the pure and applied sciences. In addition to the Central Library located in East Melbourne, each of the Divisions has specialised collections. The Library maintains a union catalogue of the holdings of all CSIRO libraries, and maintains the constantly-updated *Scientific Serials in Australian Libraries*. The Central Information Service publishes the *CSIRO Index* and *Australian Science Index*, and directories such as *Australian Scientific Societies and Professional Associations* and *Scientific and Technical Research Centres in Australia*. It also provides a question-and-answer service; operates the CSIRO Selective Dissemination of Information (SDI) System; and provides specialist numerical information services, for example, in crystallographic and mass spectral data.

The Australian War Memorial Library, Canberra. In the War Memorial library are preserved the documentary and pictorial records of Australia's participation in armed conflicts. Printed material includes over 80,000 volumes (books and bound periodicals); thousands of unbound periodicals; leaflets; souvenir and microfilm items; a large collection of military maps; newscuttings and newspapers; sound recordings; war posters; postage stamps; and currency. Official records and personal papers occupy almost 2,000 metres of shelving. Official war photographs covering the 1914-18, 1939-45, Korean and Vietnam wars number over 670,000, and there are about 1.5 million metres of cinefilm. Facilities exist for reference and research.

The Commonwealth Parliamentary Library. The Library is 'an intellectual resource centre' providing information and research services to the Commonwealth Parliament through the Legislative Research Service and the Library and Legislative Information Service. The Research Service comprises groups staffed by subject specialists who prepare analyses and interpretations of specific issues with which the Parliament is or may be concerned. The Library and Legislative Information Service answers questions and provides information from printed sources. The library collection is concentrated on topical material, supported by a wide collection of standard references; it totals 40,000 titles, including 8,500 serial titles. The library publishes the Commonwealth Parliamentary Handbook, which is a standard reference work, occasional annotated reading lists, background papers, digests of bills and, in alternate fortnights, Index to Current Information and select Lists of Acquisitions.

Other Commonwealth Government libraries. Most Commonwealth Government authorities have specialised collections in their own fields and, in addition, draw largely on the National Library.

Library services in the Territories. The Northern Territory Library Service maintains five centres in the Territory: at Darwin, Nightcliff, Alice Springs, Tennant Creek and Katherine. At 30 June 1974, stocks totalled 67,124 volumes.

The National Library conducts the Canberra Public Library Service to residents of the Australian Capital Territory. At 30 June 1980, 515,000 volumes were held.

State libraries

Most municipal councils in the States have libraries funded largely by State governments. A detailed description of State libraries is given in Year Book No. 59, pages 685-690 and in each State Year Book.

Children's libraries and school libraries

Children's libraries exist in all States, usually as branches or extensions of State or municipal libraries. Further details of children's libraries and school libraries are given in Year Book No. 59, pages 689 and 690.

University and college libraries

Since 1957, when the Commonwealth Government inaugurated a comprehensive program of university expansion, there has been notable development of university libraries, and similar development is now taking place in Colleges of Advanced Education. Some current information on university libraries is given in the ABS annual publication *University Statistics—Part 2: Staff and Libraries* (4209.0).

Archives

Australian Archives

The War Archives Committee, established in 1943 by the Prime Minister to arrange for preservation of war archives, in 1946 became the Commonwealth Archives Committee with responsibility for Commonwealth archives generally. In 1944, the Australian War Memorial and the Commonwealth National Library were designated as archival authorities for the Service departments and for other departments respectively. In 1952, the National Library became the sole archival authority for the Commonwealth, and in 1961 the Archives Division of the National Library was reconstituted as the Commonwealth Archives Office, a part of the then Prime Minister's Department. In March 1974, the Commonwealth Archives Office was re-named the Australian Archives.

The Australian Archives functions as a central agency for the administration of Commonwealth Government records which are no longer required in the day-to-day business of government. Its headquarters are in Canberra, and it has regional branches in all State capitals and in Darwin and Townsville. In relation to the Government's records management programme, its responsibilities are:

- (i) to ensure the preservation of Commonwealth records of permanent value;
- (ii) to promote efficient and economic management of current Commonwealth records, including authorisation of destruction;
- (iii) to facilitate use of Commonwealth records by members of the public; and
- (iv) to administer official policy on access to Commonwealth records, most of which are available for consultation by the public when they are thirty years old.

At 30 June 1980, its holdings throughout Australia totalled 317,827 shelf metres of records, including 118,294 metres of permanent value material. During 1979–80, 1,201 official reference inquiries were received and 204,434 items were issued to Government departments. Some 2,411 public reference inquiries were also received, and 33,463 items were issued in the Public Search Rooms for consultation.

The Australian Archives maintains liaison with similar organisations overseas, and is a national member of the International Council on Archives, established under the auspices of United Nations Educational, Scientific and Cultural Organisation (UNESCO).

State government archives

State government archives, dating from the beginning of European settlement in 1788, are held, in the case of New South Wales, Tasmania and Victoria, by archives offices established in 1961, 1965 and 1973 respectively; in other States they are held by the archives sections of State libraries.

Australian National University Archives of Business and Labour

The Australian National University Archives was established in 1954 when the records of the Australian Agricultural Company were acquired. In 1959 its collecting activities were expanded to include records of employer and employee organisations. The aim is to gather primary source material to support advanced research in economic history, history and political science. Records of 120 businesses and over 100 employer and employee organisations are held.

The Archives include deposits which have been microfilmed and pamphlet collections of interest to research workers in political history.

Business Archives Council of Australia

The Business Archives Council of Australia works for the preservation of business records and promotes the writing of business history. The Council itself does not collect business records; the main collecting centres are the Archives of the Australian National University, the University of New England and University of Melbourne. The Australian National University and the University of Melbourne have strong collections covering a wide range of business activity. The former is notable for its holdings of records of pastoral companies; the latter for its holdings of mining companies. In addition, both hold large collections of records of trade unions. The University of New England concentrates on rural industries. The Archives of Wollongong and Newcastle Universities concentrate on collecting business and trade union records in their regions.

Other Australian archives

The Mitchell Library has been acquiring manuscript material since the early years of this century. More recently, the National Library, State libraries, some archives offices, a few public libraries and historical societies, the Australian Academy of Science, and the Australian War Memorial (which is also responsible for the custody and preservation of operational records of the armed services) have assembled important collections of private papers. Ecclesiastical archives have been set up by some of the churches. Some firms have established their own archives services and the Business Archives Council plays a co-ordinating role. State and local historical societies help to preserve regional, local and private historical material.

Botanical and zoological gardens

In addition to the State botanical and zoological gardens there are numerous privately-owned zoos and sanctuaries, many of them at tourist resorts, which maintain collections of Australian flora and fauna. There are also various national parks, forests, reserves, etc. dedicated for public use which are preserved largely in their natural condition. Detailed information is given in each State year book.

The following is a summary of botanical gardens and reserves in the Northern Territory, Australian Capital Territory and the Commonwealth Territory of Jervis Bay.

Northern Territory: The Darwin Botanical Gardens occupy 30 hectares and feature 12 hectares of tropical plants of both native and overseas origin. Two hectares are used for an amphitheatre and contain a number of native and exotic plants. The Gardens are controlled by the Corporation of the City of Darwin. The Gardens were extensively damaged by Cyclone Tracy in December 1974 and, along with an extensive planting of palm and rain forest species, every effort has been made to restore and improve the Gardens.

Australian Capital Territory: The National Botanic Gardens (formerly Canberra Botanic Gardens) occupies a 40 hectare site on the lower slopes of Black Mountain. It was officially opened in 1970 and comprises the largest living collection of Australian native plants with over 4,000 species in cultivation. The associated herbarium houses over 100,000 specimens. An annexe of approximately 78 hectares was established at Jervis Bay in 1951 to cultivate frost tender plants under more favourable conditions than those prevailing in Canberra. Public education and horticultural research into native plants are important aspects of the Gardens activities.

The Tidbinbilla Nature Reserve (5,515 ha) is located 43 km south-west of Canberra. The Reserve includes much of the Tidbinbilla Valley which ranges from 762 metres above sea level to 1,325 metres at Tidbinbilla Peak, the highest peak of the Tidbinbilla Range which forms the western boundary of the Reserve. As a consequence of the valley topography many habitats are represented and plant and animal wildlife is diverse. A system of wildlife enclosures and waterfowl ponds, 56 kilometres of nature trails and a comprehensive information service is provided for approximately 180,000 visitors per annum.

The Gudgenby Nature Reserve (51,000 ha) occupies about 20% of the A.C.T. and contains an extensive tract of the wild highlands of south-eastern Australia. It covers the catchments of the Naas and Gudgenby Rivers and shares a common boundary with the Cotter River catchment (47,000 ha) in the A.C.T., and the magnificent Kosciuszko National Park (520,000 ha) in neighbouring N.S.W.

The topography and landscapes of the Reserve and consequently plant and animal communities are extremely varied. Habitat ranges from grassland of the valley floors through woodland and mountain forest to sphagnum bogs, heath swamps and alpine woodland. Several high peaks rise to between 1,700 metres and 1,800 metres above sea level. Other features of importance include a series of Aboriginal rock paintings, the only ones known in the A.C.T.

The Jervis Bay Nature Reserve occupies two thirds (4,470 ha) of the Commonwealth Territory of Jervis Bay which lies on the south-east coast of Australia. The Reserve is characterised by a substantially natural landscape and outstanding coastal scenery. High cliffs, ocean and bay beaches, sand dunes, woodland, forest and heath. A small island and part of the unspoilt marine environment of Jervis Bay and its foreshores are managed in sympathy with the Nature Reserve. Camping facilities are provided and are designed to complement the natural values of the area which attracts in the order of 400,000 visitors annually.

The Black Mountain Reserve (521 ha) adjacent to Lake Burley Griffin, is a significant focal point in the Canberra landscape and an essential component of the 'mountain and lake' concept of the Canberra scene. Black Mountain Reserve is unique in its setting within the inner boundary of a National Capital. In addition to broad scale scenic attributes, the Reserve has a varied complex of flora and fauna and is used extensively for recreation and nature study.

Management aims for all nature reserves in the A.C.T. and Territory of Jervis Bay are to:

- maintain natural ecosystems and landscapes and protect sites of prehistoric and historic significance;
- provide opportunities for recreational, scientific and educational use of these resources consistent with their protection.

RECREATION

The Department of Home Affairs and Environment has since December 1978 assumed responsibility for recreation, fitness and sports development.

All State governments have also established agencies with special responsibilities for recreation and sport. Increasing numbers of local government authorities are now employing recreation workers who are responsible for planning the use of recreation facilities, and for devising recreation programs.

Community recreation

The "Life. Be in it" program will complete its third year as a national campaign in November 1980. The program has raised wide-spread awareness of the need for more active life-styles and has attracted both community and commercial support. A national evaluation of the programs effectiveness carried out in 1979, revealed that 36% of Australians had become more active over the previous twelve months, and one person in five attributed their increased activity to "Life. Be in it." 92% of Australians considered the program to be worthwhile and valuable. The Commonwealth Government co-ordinates national aspects of the program, and works in close co-operation with State and Territory Departments responsible for recreation. Commonwealth Government support for the program has been guaranteed to the end of the 1982-83 financial year.

A study to identify the future needs of voluntary recreation workers has been completed in co-operation with State Government departments. The first stage of the Tasmanian Recreation Land Use Study, funded by the Commonwealth, has been completed. Further work on specific issues and the implementation of recommendations is being funded by the Tasmanian Government.

Sports development and assistance

The Sports Development Program administered by the Department of Home Affairs and Environment, is the Commonwealth Government's major contribution to national sporting activities and national sporting bodies. In 1979-80, the Government provided \$2.0 million under this program, an increase of \$0.7 million over that provided in 1978-79. This assistance was provided mainly to national sporting bodies to:

- improve the performance standards of Australian athletes;
- increase competition opportunities at home and abroad;
- support the administration of national voluntary sporting associations;
- upgrade the standard of Australian coaching and support sports development projects and research.

Advice on the allocation of grants and other sports matters generally is provided by the Sports Advisory Council which also determines the guidelines for the Sports Development Program.

National Coaching Accreditation Scheme

The Australian Coaching Council (ACC), which is a national body representing sport through the Confederation of Australian Sport, the Australian Olympic Federation, and Commonwealth and State Governments, was established in July 1979 to co-ordinate the establishment of the Scheme which aims to increase the standard of coaching expertise in Australia and the performance levels of Australian athletes.

In 1978-79 the Commonwealth Government provided \$34,000 from the Sports Development Program to assist with the development of the Scheme.

The Australian Coaching Council and its Technical Committee are serviced by the Department of Home Affairs and Environment. The Council meets four times a year and the Committee, which examines applications for accreditation of national coaching schemes, meets as the work-load requires. Eighteen national sporting organisations have received ACC approval for their national coaching schemes, and a further 12 applications are under consideration by the Council.

Australian Institute of Sport

The Australian Institute of Sport has been established to give Australians the opportunity to pursue their sporting interests, without necessarily sacrificing their education and careers. The aims of the Institute are to:

- provide specialist coaching/training for elite athletes while offering them complementary education and career training opportunities;
- support these athletes with world class facilities, and sports science and medicine back-up.

The Institute will be located in Canberra, and will have access to a wide range of facilities such as the National Athletics Stadium and the National Indoor Sports Centre. Top national and international coaches will supervise the Institute's programs, and facilities will be available for research and technical work required in modern sports development.

As a general rule, any person granted admission will be encouraged to undertake some course of study by enrolling at schools or colleges, or by admission to general courses at tertiary level. A bachelor degree course in Sports Studies is to be introduced at the Canberra College of Advanced Education.

The Institute registered its first students early in 1981 and will concentrate on eight sports during the initial 4 year pilot period; basketball, gymnastics, netball, soccer, swimming, tennis, track and field athletics and weightlifting.

Youth affairs

The Office of Youth Affairs is a Branch of the Department of Employment and Youth Affairs and advises the Minister on youth policy.

The primary functions of the Office are: to seek greater co-ordination and consultation between Commonwealth Departments on programs and proposals affecting youth; to seek greater co-ordination and consultation with State Governments, local government and non-government agencies in relation to Commonwealth programs affecting youth. Other functions of the Office are: to further develop the research and information capacity to increase the effectiveness of similar activities in other Commonwealth Departments; to advise on youth needs and aspirations and assist those designing specific and general programs and services for youth; to further develop channels for better communication between youth and government.

The Office pursues its functions through information services, liaison and consultation, and research and co-ordination.

It has issued a number of publications and has several in preparation. It has also issued two series of videotapes on unemployment and school/work transition. It also publishes a regular Newsletter.

The Office works closely with both the voluntary and government sectors with the aim of enabling young people to communicate more easily with the government. It acts as secretariat to the National Youth Advisory Group and to the Commonwealth's Task Group on Youth Affairs. It convenes regular meetings with State government youth agencies and peak organisations of national voluntary youth organisations.

The Office administers the Program of Assistance to Youth Organisations which provides grants for projects to assist national youth organisations to extend their services to more young people, broadcasting the direct involvement of young people in management and organisational decision making, and improving the overall quality and relevance of their activities.

Tourism

The Department of Industry and Commerce is involved in a range of policy, administrative and consultative activities designed to encourage the efficient development of tourism in Australia in co-operation with the industry and with Commonwealth and State government departments. Major functions of the department include: formulation of policy proposals, transmission of advice to the Minister on industry problems, administration of the *Australian Tourist Commission Act*, conduct of research into the tourist and travel industries, provision of secretarial support to the Tourist Minister's Council, the Australian Standing Committee on Tourism and the Travel and Tourist Industry Advisory Council and liaison with international tourism organisations.

On 13 September 1979, Australia became a full member of the World Tourism Organisation, an executive arm of the United Nations Economic and Social Council, whose activities cover all sectors of tourism on a world-wide basis. Australia is also vice-chairman of the Organisation's Regional Commission for East Asia and the Pacific.

Australian Tourist Commission

The Australian Tourist Commission was established in 1967 as a statutory body to encourage people from other countries to travel to and within Australia. It has nine commissioners including representatives of the Commonwealth and State governments and the tourist industry. Its 1980-81 budget was \$8.9 million. This includes \$300,000 for the second part of a two year domestic campaign costing \$500,000 in total.

The Commission engages in a wide variety of marketing activities including consumer and trade advertising, industry seminars and familiarisation visits for travel agents, journalists and photographers. The Commission has its head office in Melbourne and branch offices in Sydney, Auckland, London, Frankfurt, New York, Los Angeles and Tokyo.

Tourist Accommodation

Census of Tourist Accommodation Establishments. A census of Tourist Accommodation Establishments was conducted by the ABS in respect of the year ended 30 June 1974 to identify and measure the amount, type and location of tourist accommodation available throughout Australia.

For detailed statistics from the Census see *Census of Tourist Accommodation Establishments, Australia and Australian Capital Territory, Year Ended 30 June 1974* (8637.0) and *Census of Tourist Accommodation Establishments, 1973-74* published by the Deputy Commonwealth Statistician in each State.

Data relating to accommodation establishments have also been collected as part of the Census of Retail Establishments, 1979-80.

Surveys of Tourist Accommodation Establishments. Quarterly accommodation surveys were commenced in the September Quarter 1975 and data published from these surveys include room occupancy, bed occupancy and takings from accommodation.

The main purpose of the surveys of tourist accommodation establishments is to measure the utilisation of available tourist accommodation. For detailed statistics from the survey see *Tourist Accommodation, Australia* (8635.0).

TOURIST ACCOMMODATION (a)

		March quarter 1979	June quarter 1979	September quarter 1979	December quarter 1979	March quarter 1980	June quarter 1980
LICENSED HOTELS WITH FACILITIES(b)							
Establishments	Number	928	929	932	935	936	923
Guest rooms	"	25,144	25,337	25,188	25,128	25,400	25,066
Bed spaces	"	57,242	58,104	58,007	58,133	59,179	58,243
Room occupancy rates	%	55.6	53.1	55.0	54.0	56.0	54.4
Bed occupancy rates	%	37.1	34.9	36.6	35.2	37.2	35.5
Gross takings from accom- modation	\$'000	34,374	34,398	37,037	37,536	41,353	40,335
MOTELS, ETC.(b)							
Establishments	Number	2,139	2,149	2,191	2,194	2,186	2,210
Guest rooms	"	53,343	53,670	54,914	55,347	55,418	55,965
Bed spaces	"	152,894	154,172	157,118	159,494	159,434	161,325
Room occupancy rates	%	61.0	58.7	61.7	56.9	59.9	59.0
Bed occupancy rates	%	39.7	36.8	38.8	34.8	38.8	36.8
Gross takings from accom- modation	\$'000	72,219	71,215	80,293	75,346	82,239	83,540
TOTAL							
Establishments	Number	3,067	3,078	3,123	3,129	3,122	3,133
Guest rooms	"	78,487	79,007	80,102	80,475	80,818	81,031
Bed spaces	"	210,136	212,276	215,125	217,627	218,613	219,568
Room occupancy rates	%	59.3	56.9	59.6	56.0	58.7	57.6
Bed occupancy rates	%	39.0	36.3	38.2	34.9	38.3	36.5
Gross takings from accom- modation	\$'000	106,593	105,613	117,332	112,882	124,591	123,875
CARAVAN PARKS(b)							
Establishments	Number	1,745	1,737	1,750	1,764	1,769	1,763
Powered sites	"	122,346	122,590	123,150	125,014	125,961	126,149
Unpowered sites	"	57,218	57,946	57,772	57,543	58,488	58,095
Cabins, flats, etc.	"	3,538	3,508	3,528	3,464	3,455	3,435
Total capacity	"	183,102	184,044	184,450	186,020	187,904	187,679
Site occupancy rates	%	31.7	21.3	20.4	22.4	30.7	21.6
Gross takings from accom- modation	\$'000	21,440	15,605	15,940	19,052	24,095	18,082

(a) For the purposes of this survey, hotels, motels and guest houses which provide predominantly short-term accommodation (i.e. for periods of less than two months) to the general public and which provide breakfast. (b) For definitions see *Tourist Accommodation, Australia* (8635.0).

TRAVEL

The following pages contain statistics of internal travel and travel to and from Australia, together with some descriptive matter.

Holidays

At the Census of Population and Housing, 30 June 1976, a question on holidays was asked of each person. The question was: 'Has the person been away from home ON A HOLIDAY for a week or more since 30 June 1975?'

Almost half of the people who answered this question ticked the 'Yes' box.

The following table shows the results for Australia of the Census of Population and Housing, 30 June 1976.

	<i>Persons</i>	<i>%</i>
Yes (had a holiday)	6,383,119	47.1
No (did not have a holiday)	6,742,726	49.8
Not stated	422,603	3.1
Total	13,548,448	100.0

Internal travel

National Travel Survey

In 1977-78, the Bureau of Transport Economics (BTE) in Canberra conducted a survey of non-urban travel. This survey, known as the National Travel Survey (NTS), took the form of a postal survey over 12 months covering the whole of Australia. Households in the survey were asked to supply various details related to travel by members of these households in the month preceding the receipt of the questionnaire. In all, over 40,000 households responded to the survey. The travel covered by the NTS involved trips to destinations 100 km or more from home but specifically excluded travel to and from work. No limits were placed on trip durations, the intention being, for example, to cover single-day travel. In this respect the NTS differs from other non-urban travel surveys which cover travel involving at least one overnight stay. As well as information on travel characteristics, the survey gathered details on personal characteristics of household members and on the household characteristics of vehicle availability and income.

The methodology used for the NTS and the results obtained have been published in eleven publications produced by the Bureau of Transport Economics. In addition the data collected in the survey can be made available on magnetic tape to appropriate organisations wishing to carry out further analyses of the information. Details are available on request to the BTE.

National Monitor on Domestic Tourism (DTM)

A survey on the travel behaviour of Australian tourists was commissioned by the Australian Travel Research Council in respect of 1973-74. The Survey of Australian Travel obtained details for trips of between one night and three months duration, to a destination of at least 40 km from home. Details sought included income, education level, occupation, ownership of boat, type of accommodation and expenditure.

In 1977 the Australian Standing Committee on Tourism (ASCOT), which is a joint State, Territory and Commonwealth body with responsibility for advising Ministers on tourism, commissioned the Roy Morgan Research Centre to conduct a survey on domestic tourism similar to the Australian Travel Survey. The survey, known as the Domestic Tourism Monitor, began in April 1978 and is in its third year with two years of data now available to the tourist industry.

Approximately 1,000 householders throughout Australia are being interviewed each weekend. For all domestic trips taken by households of at least one night to destinations at least 40 km from the respondent's place of residence, details are recorded on the purpose of the trip, mode of transport, type of accommodation, length of stay, main destination and en-route stops. This type of information is cross-classified according to various characteristics such as age, sex, occupation, place of residence and income. Data are also available on the characteristics of non-travellers.

Overseas travel

Statistics about travellers to and from Australia are classified in the first instance by the actual or intended length of stay in Australia or abroad; this classification distinguishes between long-term and short-term movement.

Statistics of permanent and long-term movement are shown in Chapter 6, Demography.

Statistics of short-term arrivals and departures which are in the nature of travel statistics are given below.

Short-term movement is defined as comprising visitors arriving and Australian residents departing temporarily with the intention of staying in Australia or abroad for less than twelve months, together with the departure of visitors and the return of Australian residents who have stayed in Australia or abroad for less than twelve months.

Short-term movement excludes persons who arrive in and depart from Australia on the same ship's voyage or on the same flight (variously called direct transit or 'through' passengers) or who change flights without leaving the airport's transit area; passengers on pleasure cruises commencing and finishing in Australia; and all crew. However, it includes persons who pass through the Customs Barrier and declare the purpose of their visit to Australia to be 'in transit'. Short-term visitors are more numerous than long-term visitors and have come to be regarded as 'tourists' by many users of the statistics.

From October 1967 to December 1971, 276,885 United States troops came to Australia on rest and recreation leave. For statistical purposes they were classified as short-term visitors travelling by air for holiday purposes.

SUMMARY OF SHORT-TERM TRAVELLER STATISTICS

	<i>Overseas visitors</i>		<i>Australian residents</i>	
	<i>Arriving in Australia</i>	<i>Departing from Australia</i>	<i>Departing from Australia</i>	<i>Arriving in Australia</i>
Annual average—				
1961-65	131,461	135,006	97,041	118,624
1966-70	297,275	308,325	259,700	258,824
1971-75	475,925	479,015	631,446	647,608
Year—				
1974	532,683	515,378	752,218	769,650
1975	516,023	506,454	880,609	911,815
1976	531,868	512,468	968,265	973,799
1977	563,281	540,943	971,253	973,677
1978	630,594	597,123	1,062,234	1,029,482
1979	793,345	752,440	1,175,769	1,144,335

In addition to the basic classification of travellers shown above, certain other characteristics are ascertained. These characteristics are: sex, age, marital status, country of citizenship, country of birth, occupation, intended or actual length of stay, purpose of journey, mode of transport, country of residence or where most time was or will be spent, country of embarkation or disembarkation, State of residence or where most time was or will be spent, and State of embarkation or disembarkation.

The categories shown in the previous table are cross-classified by various characteristics listed above and resulting statistics are shown in considerable detail in quarterly and annual publications. Certain unpublished information is available on request. Selected traveller statistics are shown in the following tables.

Short-term travel is subject to marked seasonal variation, December being the peak month for the arrival of overseas visitors and the departure of Australian residents.

**OVERSEAS VISITORS AND AUSTRALIAN RESIDENTS: SHORT-TERM ARRIVALS AND DEPARTURES
BY MONTH OF ARRIVAL OR DEPARTURE, AUSTRALIA, 1979**

(Persons)

Month	Overseas visitors		Australian residents	
	Arriving	Departing	Departing	Returning
January	54,576	85,324	83,054	154,967
February	60,326	65,694	66,187	76,432
March	65,346	64,646	101,698	72,159
April	55,605	58,982	100,091	73,233
May	54,451	59,811	120,076	97,272
June	53,444	46,234	100,187	88,187
July	70,156	55,208	96,962	89,463
August	66,799	68,160	120,575	97,957
September	57,972	60,602	88,423	130,537
October	66,009	60,976	83,541	105,545
November	80,006	69,643	73,222	93,021
December	108,655	57,168	141,754	65,560
Total	793,345	752,440	1,175,769	1,144,334
Sea travellers as a percentage of Total	2.00	1.54	1.49	1.23

AUSTRALIAN RESIDENTS DEPARTING—SHORT-TERM MOVEMENT: STATED PURPOSE OF JOURNEY AND INTENDED LENGTH OF STAY, 1979

(Persons)

Stated purpose of journey									
	Con- vention	Business	Accom- panying business traveller	Visiting relatives	Holiday	Employ- ment	Edu- cation	Other and not stated	Total
Intended length of stay									
Under 1 week	1,480	20,500	1,082	3,891	9,245	1,662	351	4,026	42,237
1 week and under 2 weeks	9,219	25,089	2,725	12,067	105,809	1,307	2,410	9,983	168,610
2 weeks and under 3 weeks	6,526	22,787	2,426	19,134	164,699	814	1,679	12,570	230,635
3 weeks and under 1 month	3,212	13,430	1,625	23,109	87,906	720	861	7,271	138,135
1 month and under 2 months	3,516	22,643	3,779	68,699	115,024	1,837	1,695	12,066	229,259
2 months and under 3 months	1,265	8,464	2,064	43,068	57,498	858	862	7,385	121,466
3 months and under 6 months	431	5,483	1,527	44,090	58,455	2,354	1,243	7,901	121,486
6 months and under 9 months	82	2,730	1,590	20,776	30,530	2,704	1,171	4,686	64,269
9 months and under 12 months	28	1,828	2,251	7,309	11,872	4,324	2,025	8,873	38,508
Indefinite, not stated	355	1,631	608	3,853	10,113	462	224	3,920	21,167
Total	26,115	124,586	19,678	245,997	651,150	17,042	12,522	78,681	1,175,769

**OVERSEAS VISITORS ARRIVING—SHORT-TERM MOVEMENT: STATED PURPOSE OF JOURNEY
AND INTENDED LENGTH OF STAY, 1979**

(Persons)

Stated purpose of journey										
	In transit	Con- ven- tion	Busi- ness	Accom- panying business travel- ler	Visiting rela- tives	Holi- day	Em- ploy- ment	Edu- cation	Other and not stated	Total
Intended length of stay										
Under 1 week	67,374	2,554	32,071	1,774	7,763	50,497	1,041	465	8,178	171,716
1 week and under 2 weeks	259	5,415	32,269	2,550	19,029	75,871	416	1,050	7,256	144,215
2 weeks and under 3 weeks	389	3,137	16,539	1,427	29,261	52,490	512	716	5,476	109,947
3 weeks and under 1 month	26	782	5,193	408	28,888	30,448	220	310	3,180	69,456
1 month and under 2 months	112	805	9,074	938	66,380	42,003	963	1,103	6,031	127,410
2 months and under 3 months	25	128	2,633	274	27,629	14,115	734	892	3,977	50,407
3 months and under 6 months	97	72	2,741	1,018	32,900	15,994	2,553	3,664	3,562	62,601
6 months and under 9 months	52	20	1,028	722	10,508	8,472	3,708	868	1,610	26,988
9 months and under 12 months	5	7	824	659	1,905	3,405	4,977	2,581	4,667	19,031
Indefinite, not stated	..	241	1,376	264	2,751	3,464	794	282	2,403	11,575
Total	68,339	13,161	103,848	10,034	227,013	296,760	15,918	11,931	46,342	793,345

The average intended length of stay abroad of Australian residents departing in 1978 for short-term visits abroad was 55 days. The average intended length of stay in Australia by short-term visitors from overseas was 41 days. Of course, statistics for Australian residents refer to their total time away from Australia; for overseas visitors they refer only to the Australian portions of their trips.

In the case of both Australian residents departing and overseas visitors arriving, the most common reason for visit was 'holiday', followed by 'visiting relatives' and 'business' as the second and third most common reasons.

OVERSEAS VISITORS ARRIVING BY COUNTRY OF RESIDENCE AND INTENDED LENGTH OF STAY, AND AUSTRALIAN RESIDENTS DEPARTING BY COUNTRY OF INTENDED STAY AND INTENDED LENGTH OF STAY, AUSTRALIA, 1979

Country of residence (visitors) and country of intended stay (residents)	Overseas visitors arriving—intended length of stay						Australian residents departing—intended length of stay					
	Under 1 week	1 week and under 1 month	1 month and under 3 months	3 months and under 12 months	Indefin- ite, not stated, etc.	Total	Under 1 week	1 week and under 1 month	1 month and under 3 months	3 months and under 12 months	Indefin- ite, not stated, etc.	Total
Africa—												
South Africa	2,068	2,946	3,158	1,087	71	9,330	30	2,172	3,627	1,316	113	7,258
Other	866	702	1,557	838	74	4,036	90	1,314	3,085	1,713	135	6,338
Total, Africa	2,934	3,648	4,715	1,925	145	13,366	120	3,486	6,712	3,029	248	13,597
America—												
Canada	3,274	9,214	6,765	3,734	253	23,238	10	2,425	5,718	2,993	190	11,335
U.S. America	25,509	44,926	18,026	7,357	1,186	97,005	1,626	72,598	52,150	16,349	2,270	144,993
Other	1,600	1,473	1,110	744	262	5,190	30	900	3,775	2,425	296	7,426
Total, America	30,383	55,613	25,901	11,835	1,701	125,433	1,666	75,923	61,643	21,767	2,756	163,754
Asia—												
Hong Kong	2,577	5,616	2,149	906	125	11,373	2,723	32,968	6,036	2,581	834	45,141
India	1,073	1,001	1,246	655	123	4,098	100	2,704	5,122	1,238	186	9,350
Indonesia	3,532	3,098	1,336	716	185	8,867	1,123	30,844	6,800	2,651	687	42,106
Israel	321	454	716	563	68	2,124	50	921	2,854	1,627	135	5,588
Japan	23,786	13,712	1,883	1,583	673	41,636	821	7,390	2,749	779	175	11,916
Malaysia	1,443	3,964	2,926	1,920	140	10,393	722	11,534	4,229	2,409	270	19,163
Philippines	1,568	1,517	756	275	102	4,218	971	15,649	3,630	802	351	21,403
Singapore	3,252	5,414	2,819	988	128	12,601	2,802	32,408	4,618	2,457	721	43,006
Thailand	803	1,207	955	420	91	3,475	331	6,885	1,708	663	82	9,668
Other and unspecified	3,553	3,536	2,816	1,932	398	12,237	361	9,898	8,642	10,698	540	30,138
Total, Asia	41,908	39,519	17,602	9,958	2,033	111,022	10,004	151,201	46,388	25,905	3,981	237,479
Europe—												
Austria	507	479	924	623	50	2,583	10	522	2,673	1,171	135	4,512
France	2,274	2,346	1,776	985	94	7,475	70	1,062	4,022	2,148	198	7,500
Germany(a)	5,528	6,946	11,178	4,607	538	28,798	144	3,352	12,129	5,930	367	21,924
Greece	401	388	1,314	1,964	193	4,260	111	1,611	8,396	24,547	1,017	35,682
Italy	1,455	2,210	3,375	3,247	342	10,629	180	2,744	16,978	19,553	682	40,137
Netherlands	2,045	2,782	7,988	3,254	196	16,265	10	1,441	8,019	4,262	329	14,060
Switzerland	1,431	1,797	1,997	1,285	100	6,610	30	950	2,135	1,132	50	4,298
U.K. and Ireland	10,560	28,018	49,086	28,886	926	117,475	707	21,217	121,348	71,814	3,307	218,393
U.S.S.R.	189	320	377	203	21	1,109	—	210	802	245	6	1,264
Yugoslavia	401	516	1,598	2,835	131	5,480	40	381	6,076	10,430	275	17,201
Other and unspecified	3,208	3,889	3,809	3,773	434	15,115	20	2,051	12,469	13,224	640	28,402
Total, Europe	27,999	49,691	83,422	51,662	3,025	215,799	1,322	35,542	195,048	154,456	7,006	393,373
Oceania—												
Fiji	2,855	2,818	1,472	710	166	8,020	2,476	58,646	1,855	1,003	1,552	65,534
New Caledonia	3,167	2,921	2,354	761	248	9,452	834	10,832	633	279	394	12,973
Papua New Guinea	6,404	7,296	6,087	3,586	306	23,679	3,331	11,803	4,173	4,660	429	24,396
New Hebrides	561	328	310	116	32	1,346	347	8,109	302	161	194	9,112
New Zealand	53,225	159,759	34,128	23,686	3,609	274,407	19,705	161,706	31,395	7,247	4,038	224,089
Norfolk Island	268	564	217	137	73	1,259	1,592	10,225	341	119	201	12,477
Other	1,670	965	869	1,013	73	4,589	544	8,549	1,429	871	199	11,589
Total, Oceania	68,149	174,652	45,435	30,010	4,508	322,753	28,828	269,870	40,128	14,340	7,007	360,171
Other	343	495	741	3,228	164	4,973	297	1,358	806	4,765	169	7,395
Total	171,716	323,618	177,817	108,620	11,575	793,345	42,237	537,380	350,725	224,261	21,167	1,175,769

(a) Comprises the German Democratic Republic and the Federal Republic of Germany.

CHAPTER 27

THE TERRITORIES OF AUSTRALIA

The internal Territories of Australia are the Northern Territory and the Australian Capital Territory. External Territories under the control of Australia are: Norfolk Island; the Territory of Heard and McDonald Islands; the Australian Antarctic Territory; the Territory of Cocos (Keeling) Islands; the Territory of Christmas Island; and the Territory of Ashmore and Cartier Islands.

Information on all Territories except Ashmore and Cartier Islands is contained in the following pages, and details of the acquisition of all the Territories will be found on pages 6 and 7 of Chapter 1. More detailed statistics and additional descriptive matter are to be found in the Annual Reports of the Administrations of the various Territories and in the *Northern Territory Statistical Summary* (1306.7) and the *Australian Capital Territory Statistical Summary* (1307.0) issued by the ABS. Statistics for the Northern Territory and the Australian Capital Territory are also included in chapters dealing with particular subjects.

THE NORTHERN TERRITORY

General description

The total area of the Northern Territory is 1,346,200 square kilometres.

The Northern Territory seat of Government is Darwin on the North Coast. Greater Darwin Area had a total population of 50,612 in July 1979.

Northern Territory Self-Government

The Northern Territory was established as a self-governing territory by the *Northern Territory (Self-Government) Act* 1978 of the Commonwealth. Under that Act, the Commonwealth transferred most of its powers to the Government of the Northern Territory.

In all fields of transferred power, the Government is similar to that of the Australian States, with some differences in titles, for example there is an Administrator instead of a Governor and a Chief Minister instead of a Premier.

The Administrator, appointed by the Governor-General, has responsibility for administering the Government of the Northern Territory. The Administrator is advised by an Executive Council comprised of all Northern Territory Ministers, led by the Chief Minister. The Administrator acts with the advice of the Executive Council on all matters transferred to the Northern Territory. He acts with Commonwealth advice on matters not transferred.

The Legislative Assembly of the Northern Territory is the Northern Territory's Parliament. It has 19 Members, which are elected for a period of four years. A Speaker is elected by, and Ministers are appointed from, the Members of the Legislative Assembly. A Ministry of six is responsible for the administration of all transferred powers and acts through a number of departments and authorities, most of which are staffed by the Northern Territory Public Service.

Local Government was established in Darwin in 1957 and afterwards in regional centres. Municipal councils are elected by universal adult franchise, with elections at intervals of not more than three years. Provision has been made for a limited form of local government by smaller communities. There has been considerable interest in this provision, particularly in Aboriginal communities.

Development of Administration

Upon the extension of New South Wales westwards to the 129th east meridian in 1825, the Northern Territory was incorporated in that colony, but in 1863 it was annexed by Royal Letters Patent to the province of South Australia. With the adjacent islands, it was transferred to the Commonwealth on 1 January 1911.

From 1911 until 30 June 1978, the Commonwealth administered the Northern Territory under the provisions of the *Northern Territory (Administration) Act* 1910, as amended. The Act provided for an Administrator, appointed by the Governor-General, to administer the Northern Territory on behalf of the Commonwealth Government.

By amendment of the Act in 1947, a Legislative Council comprising seven official and six elected members, with the Administrator as President, was created to make laws for the peace, order and good government of the Northern Territory. Composition of the Legislative Council was changed by further amendment in 1959 to provide for six official members, three nominated non-official members and eight elected members, and for an Administrator's Council to advise the Administrator. The Act was further amended in 1974 to provide for a Legislative Assembly of 19 elected Members and for a Speaker to be one of those Members, elected by the Members.

Laws passed by the Assembly were presented to the Administrator for assent. The Administrator was required to reserve laws on specific subjects for the pleasure of the Governor-General who was empowered to assent, withhold his assent or refuse his assent in part to such laws, or to return them to the Assembly with recommended amendments.

On 1 January 1977, the Commonwealth Government began a program of transferring executive powers to the Legislative Assembly by amendment of the Northern Territory (Administration) Act. A separate Northern Territory Public Service was created and administrative powers were transferred. Positions of Executive Member were created under the Act. These Members exercised ministerial-type powers in respect of transferred matters such as policy, fire brigade, local government and correctional services. An Executive Council replaced the Administrator's Council.

On 1 July 1978, the Northern Territory (Self-Government) Act came into force and established the Northern Territory as a body politic under the Crown. This Act also provided for the appointment of an Administrator by the Governor-General. It created offices of Ministers of the Northern Territory who, together with the Administrator, comprise the Executive Council of the Northern Territory. A Northern Territory Government, comprised of Ministers of the Northern Territory, was established with full responsibility for a range of state-type transferred powers administered through a Northern Territory Public Service and a Treasury. A Northern Territory flag was raised for the first time on 1 July 1978, the date upon which the Northern Territory became self-governing.

Major matters not transferred on 1 July 1978 were the mining of uranium and other prescribed substances, Aboriginal land matters, health, education and the Supreme Court. Powers in respect of health, education and the Supreme Court were progressively transferred from the Commonwealth to the Northern Territory Government during 1979.

At the end of 1979, the only major powers retained by the Commonwealth in the Northern Territory were those relating to rights in respect of Aboriginal land and the mining of uranium and other prescribed substances. Since the end of 1979, the Northern Territory, although remaining a Territory of the Commonwealth and still subject to Commonwealth laws made under Section 122 of the Constitution, is in most respects a self-governing Territory.

The Northern Territory is represented in the Parliaments of the Commonwealth by one Member in the House of Representatives and two Senators, whose terms of office coincide with that of the Member in the House of Representatives.

Physical geography

The Territory is within the torrid zone, with the exception of a strip about 300 kilometres wide which lies south of the Tropic of Capricorn.

The low flat coastline seldom reaches a height of 30 metres. Sandy beaches and mud flats, thickly fringed with mangroves, prevail. Sandstone, marl and laterite form the occasional cliffy headlands. The coastline of 6,200 kilometres is indented by bays and inlets and intersected by numerous rivers, many of which are navigable for considerable distances from their estuaries. The only practicable deep-water port for general use, however, is Darwin.

Inland, the country generally is devoid of conspicuous landmarks. From the coast there is a general rise southwards to the vicinity of the seventeenth or eighteenth parallel of south latitude, where the higher lands form the watershed between the rivers that flow northwards to the sea and those that form the scanty supply for the interior system. Towards the centre of the continent the land over a wide area is of considerable elevation, and there are several mountain ranges, generally with an east west trend.

Climate, fauna and flora

There are two main climatic divisions: the wet season, November to April; and the dry season, May to October. The changes of weather are uniform and regular. Nearly all the rainfall occurs in the summer months.

The ordinary types of native Australian fauna inhabit the Territory. As elsewhere on the continent, the higher *Theria* are rare, but marsupials, birds, crocodiles, fresh-water tortoises, snakes (mostly non-venomous), and frogs abound. There are many varieties of fresh-water fish and littoral Mollusca. Butterflies and beetles are strongly represented. The termite is a pest which is capable of serious

damage to wooden buildings unless special preventive measures are taken. Mosquitoes and sandflies are very troublesome in the 'top end', particularly in the wet season. Buffaloes exist in large herds on the northern coastal plains. Most types of native fauna are protected.

The vegetation is north Australian in type, but a number of forms belong to the Malayan and Oceanic regions. The climate and generally poor soils associated with it give rise to tropical savannah vegetation, with the size and volume of woody material present being closely related to rainfall and the quality of the forests decreasing strikingly as one proceeds inland from the northern coastline. In the north, cypress pine (which is termite resistant), ironwood, bloodwood and paperbark timbers are cut and milled for local building purposes. Further inland, particularly on the Barkly Tablelands and parts of the Victoria River district, there are better grazing grasses and some shrubs, while the wide belt of sandy plain between the Barkly Tableland and the ranges in the Alice Springs area carries mainly spinifex grass and low scrub. The plains of the Alice Springs district carry chiefly an acacia scrub known as mulga, spinifex and other sparse grasses. The principal families represented in the interior are *Gramineae*, *Chenopodiaceae*, *Compositae* and *Mimosaceae*.

Population

See also Chapter 6, Demography.

The population of the Northern Territory at the census of 30 June 1979, as adjusted for under-enumeration, was 115,917 persons.

Aboriginal Affairs

Policy

The Government is committed to the policies of Aboriginal self management at all levels, and Aboriginal self sufficiency. Involvement of Aboriginals in delivery and planning programs, and in all stages of the development and implementation of policy is paramount.

The basis of the Government's approach is to secure for Aboriginals access to government services equal to that accorded other Australian citizens, together with additional services appropriate to Aboriginals' state of extreme disadvantage, and, in recognition of a community obligation deriving from Aboriginals' past dispossession and dispersal, to secure for them certain special benefits not available to other citizens, provided such special benefits are sanctioned by the Parliament.

Legal status

As Australian citizens, Aboriginals are entitled to equality before the law. For the purpose of administering various programs designed to benefit Aboriginals, the Department of Aboriginal Affairs and other Commonwealth Government departments and agencies define an 'Aboriginal' or 'Torres Strait Islander' as a person of Aboriginal or Torres Strait Islander descent who identifies himself, as an Aboriginal or Torres Strait Islander and is accepted as such by the community in which he lives.

Land and land rights

The *Aboriginal Land Rights (Northern Territory) Act* 1976-78 gives traditional Aboriginals inalienable freehold title to former reserve land in the Northern Territory and provides a procedure for them to claim title to other areas of unalienated Crown Land.

The former reserve land granted to Aboriginals totals 249,013 square kilometres, or 18.4 per cent of the area of the Northern Territory.

Aboriginals who are able to prove strong traditional links with unalienated Crown Land may make a claim before the Aboriginal Land Commissioner, a judge of the Northern Territory Supreme Court. The Aboriginal Land Rights Act requires the Land Commissioner, in hearing a claim, to consider a number of matters in addition to traditional ownership before making a recommendation to the Minister for Aboriginal Affairs. The Minister can then accept or reject the Land Commissioner's recommendations.

Many Aboriginal land claims have been lodged with the Land Commissioner. Several have been finalised and others are in the process of being heard.

Titles to Aboriginal land are held by Aboriginal Land Trusts and the land is administered by Aboriginal Land Councils.

Minerals on Aboriginal land remain the property of the Crown. The Aboriginal Land Rights Act provides, however, that mineral exploration can only proceed with the approval of the appropriate land council who, in turn must consult with the traditional Aboriginal owners of the area concerned. There is provision in the Act for the objections of the land council to be over-ridden, in the national interest, and for the Minister for Aboriginal Affairs to appoint an arbitrator if the land council is un-

able or unwilling to reach agreement with a mining interest. Certain exceptions to the requirement for Aboriginal consent were created by the Act and these include the Ranger Project Area and the Jabiluka deposit.

Royalties from mining on Aboriginal land are paid into an Aboriginal Benefits Trust Account and are distributed to pay administrative expenses of land councils, to communities affected by mineral developments and, on the recommendation of an advisory committee, to Aboriginal communities of the Northern Territory generally. Control of uranium mining has been reserved by the Commonwealth and special arrangements have been made between the Commonwealth and the Northern Territory Governments in relation to payments in lieu of royalties.

Aboriginal communities are also being assisted to purchase land off reserves. An Aboriginal Land Fund Commission was established in 1974 for this purpose. This function was taken over on 1 July 1980 by the Aboriginal Development Commission.

Community services and affairs

Government policy in the administration of Aboriginal affairs is to encourage existing State and Commonwealth departments and instrumentalities to provide services to Aboriginals as to other Australian citizens and to take special measures to ensure that these services are appropriate, accessible and reflect the variety of Aboriginal life styles. In line with the transfer of other functions to the Northern Territory Government on 1 July 1978, the Northern Territory Government has assumed responsibility for the provision of major services to Aboriginal communities including essential services such as water and power supply, health, education and support for local government. Housing however, remains the responsibility of the Commonwealth.

Special programs for Aboriginals

Attention is being given to changing the institutional character of Aboriginal reserve communities in the Northern Territory. Support is designed to encourage and strengthen the capacity of Aboriginals to manage their own affairs, to increase their economic independence, and to reduce social handicaps facing them.

Government policy is to provide Aboriginal primary school children in Aboriginal communities with education in their own language as far as practicable. Bilingual education programs initiated in Northern Territory Aboriginal communities in 1973 have been expanded and are operating in several schools. There are some 1,920 children receiving part of their instruction in their mother tongue.

Aboriginal Legal Services operated by Aboriginals and supported by the Department of Aboriginal Affairs have been established on the initiative of Aboriginal groups in all States and the Northern Territory to ensure that Aboriginals have access to legal advice and are competently represented in the courts.

Production

See also the chapters dealing with particular subjects.

Land tenure

On 30 June 1980, 10,528,300 hectares were held under freehold title; 76,855,600 hectares under leasehold; 99,420 hectares under various licences; 12,717,100 hectares were reserved for public purposes and for the benefit of Aboriginals; and 34,419,580 hectares were unalienated. Land rent collected for the year 1979–80 amounted to \$411,408.

Following the report of the Aboriginal Land Rights Commissioner in April 1974, the Commonwealth Government introduced the *Aboriginal Land Rights (N.T.) Act* 1976. This Act which commenced on Australia Day, 26 January 1977 provides for the granting to Aboriginals of a title in fee simple, of traditional Aboriginal land in the Northern Territory.

Existing reserves for the use and benefit of Aboriginals will be subject to fee simple title pursuant to the provisions of the Act, while title to other areas of land over which traditional rights are claimed are subject to hearings by the Aboriginal Land Commissioner, who must be a Judge of the Supreme Court of the Northern Territory.

Early in 1979, Mr R. J. Withnall was requested by the Northern Territory Government to submit a report on the urban land laws of the Northern Territory and proposals for their reform. In September 1979, Mr Withnall submitted his report which is under consideration.

The various forms of lease or licence of lands are as follows:

- | | |
|---------------------|--|
| Pastoral leases | —granted for periods not exceeding 50 years. |
| Agricultural leases | —granted in perpetuity over areas generally limited to a maximum of 40,470 hectares approximately. |

Leases of town lands	—granted in perpetuity.
Special purposes leases	—granted for a term of years or in perpetuity for purposes other than pastoral, agricultural or mining, or for private residential purposes within a town.
Church lands leases	—granted for church purposes at a nominal rent in perpetuity.
Miscellaneous leases	—granted for any prescribed or approved purpose for a term of years or in perpetuity.
Grazing licences	—granted to graze stock on Crown Lands for periods not exceeding one year.
Occupation licences	—granted for manufacturing, industrial or any prescribed purposes for periods not exceeding five years.
Miscellaneous licences	—granted for periods not exceeding one year.

With the exception of leases within the Darwin Town Area or a municipality—which are granted at nominal rentals (10 cents per annum if and when demanded), the foregoing leases and licences are granted at specified rentals, or at rentals fixed by the Administrator and subject to reappraisal, and under various prescribed or specified conditions.

Pastoral and agricultural industries

Beef cattle production is the major rural industry in the Northern Territory. The beef industry has been characterised throughout its history by a slow rate of expansion due to the poor quality of native pastures and unsatisfactory market outlets. Developments in pasture improvement and the use of adapted Zebu cross-cattle in the northern areas, the opening in 1963 of the export abattoirs in Katherine and Darwin, some improvement in disease control coupled with better management techniques, and various incentives and research programs introduced by the Government to encourage development of the pastoral industry have resulted in an increase in turnoff figures and value of production.

In the mid 1970's industry development suffered a major set-back due to a prolonged period of low export meat prices despite the upgraded export status given to Point Stuart Meatworks as well as the development of the live cattle export market in Malaysia. Over that period cattle numbers increased by approximately 400,000 head to 1.8 million, reflecting the high cost of mustering and cartage, which, together with the low returns resulted in non-profitability of cattle sold to market.

Since mid-1978, the industry has seen a dramatic upturn in prices by more than 300 per cent. Additional export abattoirs have been operating at Alice Springs and Tennant Creek. The increase in prices has lifted cattle turn-off to market and total beef earnings from around \$20 million in 1976 to approximately \$90 million in 1979–80. The value and volume of agricultural production continues to fluctuate with successive attempts and failures at large scale 'corporation' farming.

To encourage crop growing and provide diversification within the pastoral and agricultural industries, the Northern Territory Government announced in 1980 an Agricultural Development and Marketing Scheme. The Scheme involves staged and coordinated on-farm infrastructure and market development, intended to stimulate development to a stage where economies of scale will reduce present costs of inputs and obtain bulk loads of crops for export to interstate or overseas markets.

Animal production has continued to be augmented by the buffalo meat industry. Development in the domestication of buffaloes continues on the sub-coastal plains properties. Both the pig and poultry industries, unaffected by overseas marketing, have continued to expand.

Continuing private investment in rural development is leading to greater pressures upon the Government for extension services and research. The work of CSIRO and the Dept. of Primary Production research stations and experimental farms is providing the basis for continuing rural development. As new knowledge is being gathered it will be followed by testing on farm scale.

The research institutions in existence in the Northern Territory are as follows:

Arid Zone Research Institute—Alice Springs. With the completion of the new research laboratory in 1967, more emphasis is being placed on arid zone research in the 'Centre' and on the need to conserve valuable pastoral lands while achieving maximum productivity. Fields of work at the Institute include animal health, agriculture, soil conservation, botany, animal production and range management.

Coastal Plains Research Station. The Station has 3 main roles: one as a regional station examining suitable pasture and animal production systems in the Coastal Plains/Darwin area; the second involving basic studies into breeding and breeds with wider implications; and a third as the major centre for rice research. Its efforts have been devoted to the animal breeding investigations, with some attention being paid to the development of improved pasture systems including establishment, maintenance and the reaction to various grazing rates. Breeding trials are being

conducted with Brahman and Africander cross-breeds, and Shorthorns. Banteng (Bali) cattle are being studied as a source of tropical blood for breeding cattle adaptable to Territory conditions and a small herd of cross-bred cattle has now been developed. Buffalo/Brahman comparison studies are also being taken.

Victoria River Experiment Station. This is the only Government Experiment Station in the range-lands of the Northern Territory. Work is being undertaken on: genetic improvement of the local breed of Shorthorn cattle; evaluation of improved pastures; supplements; breed comparisons; and range management studies.

Upper-Adelaide River Experiment Station. The Station is mainly concerned with regional investigations of pasture and animal production for the Marrakai area including stocking rates on improved and native pastures, comparison studies of improved pastures and testing of new potential pastures, management of pastures on flood plains, feeding supplementation trials and rice production.

Berrimah Experiment Farm. The work of this Farm has been mainly restricted to pasture and crop investigations; plant introduction; fruit, vegetable and weed control trials; and intensive animal studies.

Katherine Experiment Farm. This Farm services the southern part of the Daly River Basin and has a larger component of cropping work than other stations. Work being conducted includes utilisation and management of improved pastures; sorghum, mung beans, with minor projects on pigeon peas and cow peas and various aspects of cattle management.

Douglas-Daly Experiment Station. This station is concerned with developing animal production systems for the higher rainfall part of the Daly River Basin, including evaluation of pastures under grazing/stocking rates, supplementary feeding, use of fertilisers, pasture establishment, pasture animal production trials and investigation of peanut, maize and soybean production.

Other research sites. Research and trials are also being conducted at selected sites on maize, soybeans, sorghum, peanuts, *Stylosanthes spp.* and weed control.

NORTHERN TERRITORY: NUMBER, AREA AND LAND UTILISATION OF AGRICULTURAL ESTABLISHMENTS

					Total	
	Number of agricultural establishments	Area used for crops (a)	Area under sown pastures and grasses	Balance of area (b)	Area	Percentage of N.T. land area (134,620,000 hectares)
				'000 hectares		
1974-75	385	7.4	129.1	79,210.5	79,347.1	58.9
1975-76	361	8.3	115.8	78,662.5	78,786.6	58.5
1976-77	289	2.4	112.8	75,263.3	75,378.5	55.9
1977-78	297	0.8	112.3	75,410.0	75,523.1	56.0
1978-79	301	1.6	90.4	76,099.9	76,191.9	56.6
1979-80	346	1.6	111.0	77,025.5	77,138.0	57.3

(a) Excludes duplication on account of area double cropped.

(b) Used for grazing, lying idle, fallow, etc.

NORTHERN TERRITORY: AGRICULTURAL STATISTICS

	Unit	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80 ^a
Livestock numbers—							
Cattle	'000	1,434.4	1,602.8	1,663.7	1,674.1	1,784.6	1,730.0
Domesticated buffaloes	'000	3.2	3.3	3.7	4.2	3.6	2.1
Poultry	'000	15.0	139.5	174.9	182.2	200.3	180.1
Pigs	'000	7.3	7.0	7.4	3.2	3.1	3.0
Gross value of livestock slaughtering and other disposals—							
Cattle and calves	\$'000	9,445	9,456	22,834	29,291	106,890	n.y.a.
Poultry	\$'000	9	2	534	633	633	n.y.a.
Pigs	\$'000	268	559	602	687	390	n.y.a.
Gross value of livestock products—							
Dairy products	\$'000	167	113	142	72	72	n.y.a.
Eggs	\$'000	853	900	898	1,300	1,292	n.y.a.
Crops, Area—							
Sorghum (grain and feed)	Hectares	4,286	3,934	1,705	144	764	n.y.a.
Hay	Hectares	34	236	195	66	251	n.y.a.
Tree fruit	Hectares	19	40	26	15	15	n.y.a.
Bananas	Hectares	11	19	11	14	12	n.y.a.
Vegetables	Hectares	131	143	97	108	119	n.y.a.
Pastures and grasses (hay, seed, green feed)	Hectares	2,715	2,058	2,175	1,591	2,123	n.y.a.
Total area used for crops (incl. pastures and grasses)	Hectares	10,158	10,331	4,566	2,407	3,697	n.y.a.
Crops, Production—							
Sorghum for grain	Tonnes	6,784	4,986	1,335	41	331	n.y.a.
Hay	Tonnes	60	1,022	1,457	200	1,956	n.y.a.
Bananas	Tonnes	138	121	70	89	124	n.y.a.
Pastures and grasses (hay, seed)	Tonnes	3,280	4,869	7,056	5,083	5,574	n.y.a.
Gross value of crops—							
Sorghum for grain	\$'000	n.p.	414	117	4	6	n.y.a.
Fruit	\$'000	66	66	36	60	220	n.y.a.
Vegetables	\$'000	147	122	132	421	590	n.y.a.
Pastures and grasses	\$'000	168	104	152	231	164	n.y.a.
Total crops (incl. pastures and grasses)	\$'000	960	790	545	1,194	1,125	n.y.a.
Gross value of agriculture	\$'000	11,702	11,820	25,555	33,177	110,402	n.y.a.

Mining

The value of mineral output continued its rapid rise of recent years from \$207.6 million in 1977-78 to \$249.8 million in 1978-79 and to \$369.6 million in 1979-80. Major factors in the increasing values of production have been the generally higher metal prices, combined with increasing outputs of copper, manganese, bauxite and construction materials such as crushed rock, sand and gravel. The principal mining areas are the Gove Peninsula, where bauxite is produced; Groote Eylandt for manganese; Tennant Creek for copper and gold; and the Alligator Rivers region for uranium.

NORTHERN TERRITORY: MINING ESTABLISHMENTS

		1976-77	1977-78	1978-79
Establishments operating end of June	No.	14	13	11
Average employment over whole year—persons (a)	No.	1,203	1,164	1,251
Wages and salaries	\$m	16.9	16.9	19.5
Turnover	\$m	148.7	124.9	143.5
Opening stocks at 30 June	\$m	19.7	19.3	20.2
Closing stocks at 30 June	\$m	20.2	20.3	19.7
Purchases, transfers in and selected expenses	\$m	37.1	30.1	36.2
Value added (b)	\$m	112.2	95.8	106.8
Fixed capital expenditure (c)	\$m	10.1	8.7	28.2

(a) Includes working proprietors. Prior to 1977-78 employment shown at 30 June. (b) Turnover plus increase (or less decrease) in the value of stocks less purchases, transfers in and selected expenses. Commencing with 1978-79, 'rent, leasing and hiring revenue' and 'rent, leasing and hiring expenses' have been included in the calculation of value added and its components 'turnover' and 'purchases, transfers in and selected expenses'. (c) Outlay on fixed tangible assets less disposals.

Petroleum and natural gas

During 1979-80 interest in petroleum exploration reached an unprecedented level. Seven new offshore permits were granted and applications were invited for a further six areas in the Arafura Sea. At 30 June 1980, 14 offshore permits had been issued covering 2,698 blocks and 7 onshore permits totalling 111,150 square kilometres. There are 12 onshore oil permits and 3 oil leases under application.

Forestry

Forestry activities in the Northern Territory commenced in 1959 under the Forestry and Timber Bureau; later a State-type service was developed under the Department of the Northern Territory.

In July 1978, with the granting of self-government, forestry became the responsibility of the Territory Parks and Wildlife Commission, now the Conservation Commission of the Northern Territory.

Present activities fall into four main areas: Urban Forestry, Plantation Forestry, Native Forest Management and Conservation.

The Urban Forestry section is aimed at improving the urban environment throughout the Northern Territory through programs of park and street beautification and arid area species testing.

The Plantation Forestry section is predominantly based on plantation establishment on more favourable sites on Melville Island. The program which at this time is totally research oriented with limited plantings, is ultimately aimed at import replacement. The major species in use is *Pinus caribaea*, though early plantings were largely Cypress pine. A small pressure treatment plant providing treated round timber is operated by the Aborigines on nearby Bathurst Island.

Management of native forest is currently confined to the Murganella area of Arnhem Land where a policy of protection from fire has resulted in extensive regeneration of Cypress pine and native hardwoods, *Eucalyptus Tetradonta* and *E. Nesophila*. Current research in this area is aimed at development of sound management prescriptions for treatment of this regeneration.

In its conservation role, the Conservation Commission has given emphasis to fire and ecological studies throughout the Territory together with seed collection, testing and propagation, and gene pool conservation of rare or unique species.

Fishing

The Northern Territory fishing industry has increased in importance over the last decade following development of prawn resources. Prawn trawling is now the major fishery, contributing over 80 per cent of total value. Barramundi is second, with the remainder mainly threadfin salmon, spanish mackerel, mud crabs, reef fish and bay lobsters. Prawn and barramundi are heavily fished and measures have been introduced to prevent over-exploitation. The Territory Government is encouraging development of under-utilised demersal and pelagic species (mainly fished by foreign vessels), and reef fish, crabs, scallops and squid. Foreign and joint feasibility fishing ventures have involved the issue of Commonwealth licences to 150 Taiwanese vessels. The Government is encouraging Australians to participate in fisheries not utilised by them and in those exploited by foreign vessels.

NORTHERN TERRITORY: PRINCIPAL FISHERIES

		1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Prawns—							
Estimated gross weight of prawn catch	tonnes	4,489	3,346	3,191	2,882	2,165	3,504
Gross value of prawns	\$'000	6,509	5,019	4,222	8,647	8,100	17,100
Fish—							
Estimated live weight of fish catch	tonnes	846	781	978	1,483	1,451	1,576
Gross value of fish	\$'000	749	613	969	1,664	1,900	2,334
General fisheries—							
Number of boats engaged		276	194	289	290	380	406
Number of persons employed		788	638	830	934	1,258	1,602

Secondary industries

The types of secondary industries that have developed in the Northern Territory have been largely service industries based on demand from local markets, together with the processing of primary production for export including the processing of mined ores, prawns and beef. The isolation of the Northern Territory from the major population areas of Australia and the resultant high transportation costs make other than local market expansion difficult.

The extent of importation of commodities into the Northern Territory, significant underdeveloped raw resources and a growing population would suggest that potential exists for industrial expansion. Some see the proximity of South East Asian markets to Darwin as providing considerable future potential for export-orientated secondary industry development.

The following table shows results of the Manufacturing Censuses taken in respect of the years 1976-77 to 1978-79.

NORTHERN TERRITORY: MANUFACTURING ESTABLISHMENTS

		1976-77	1977-78	1978-79 (a)
Establishments at 30 June	No.	67	64	87
Persons employed (b)	No.	1,624	1,498	2,068
Wages and salaries	\$m	17.8	18.2	28.3
Turnover	\$m	124.1	145.2	186.3
Opening stocks at 30 June	\$m	35.4	44.9	37.6
Closing stocks at 30 June	\$m	41.9	46.5	41.8
Purchases, transfers in and selected expenses (c)	\$m	84.4	90.7	117.5
Value added (c)	\$m	46.2	56.1	73.0

(a) Classified to industry according to the 1978 edition of the Australian Standard Industrial Classification (ASIC). The 1969 Preliminary edition of the ASIC was used in preceding years. (b) Average over whole year. Includes working proprietors. (c) Data in this table have been revised to comply with changes in the ABS definition of *value added*. 'Rent, leasing and hiring expenses' and 'Rent, leasing and hiring revenue, previously excluded from the *value added* calculations, are now included.

Tourism

Tourism is one of the Territory's major industries with direct earnings for 1979-80 estimated at \$85m. Visitors increased from 112,800 in 1971 to 268,000 in 1979-80 (almost 25 per cent of these being from overseas). A visitor growth rate of 12 per cent continues to encourage investment in tourist facilities which includes a casino in Darwin and new airport near the new Yulara Tourist Village at Ayers Rock—Mt Olga National Park. Ayers Rock (which provides the most reliable visitors figures) showed increases from 5,000 in 1961 to 38,000 in 1971, 62,646 in 1976 and 76,988 in 1979-80.

The Northern Territory Tourist Commission has an Alice Springs Head Office, a Darwin Office, a Bureau in Adelaide, Melbourne, Sydney and Brisbane and a budget for 1980-81 of \$2.6m (an increase of 73 per cent on 1979-80).

National parks and reserves

There are 45 parks and reserves, covering about 48,000 square kilometres, under the care, control and management of the Conservation Commission of the Northern Territory. The Commission's functions include the preservation and protection of natural and historical features and the encouragement of public use and enjoyment of land set aside in the lands under its control.

Trade, transport and communication

Trade

No comprehensive record is kept of the trade between the States and the Northern Territory. The following table shows the values of the principal commodities imported into and exported from the Northern Territory from or to overseas countries.

NORTHERN TERRITORY: PRINCIPAL OVERSEAS IMPORTS AND EXPORTS

(\$'000)

Commodity	1974-75	1975-76	1976-77 (a)	1977-78	1978-79	1979-80p
IMPORTS						
Automotive spirit	3,801	4,786	7,566	9,843	6,709	9,233
Automotive distillate	3,772	3,780	6,054	9,172	9,915	28,179
Furnace fuel	13,407	19,332	13,502	31,397	24,759	60,623
Chemical elements and compounds	7,760	6,834	5,463	9,656	7,483	11,722
Timber	1,754	1,887	2,573	1,157	1,093	864
Machinery and transport equipment	7,332	7,314	16,112	13,759	30,654	26,888
Other articles	11,069	15,226	21,071	24,613	16,031	26,773
Total imports	48,895	59,159	72,341	99,597	96,644	164,282

For footnotes see end of table.

NORTHERN TERRITORY: PRINCIPAL OVERSEAS
IMPORTS AND EXPORTS—*continued*
(*\$'000*)

<i>Commodity</i>	<i>1974-75</i>	<i>1975-76</i>	<i>1976-77 (a)</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80p</i>
EXPORTS (b)						
Meat and meat preparations	2,698	2,076	1,771	3,037	18,702	39,927
Fresh prawns and shrimps	3,140	3,005	4,291	7,941	9,034	10,650
Iron ore and concentrates	1,549	606	—	—	—	—
Other metalliferous ores and metal scrap	37,379	53,825	69,549	57,227	152,785	188,966
Inorganic chemicals, elements, metallic oxides, etc.	56,786	83,374	87,808	114,693	7,616	—
Ships, boats and floating structures	11,519	322	950	4,033	19,505	295
Other articles	3,993	8,643	5,364	5,179	10,079	12,281
Total exports	117,064	151,851	169,733	192,110	217,721	252,119

(a) Import figures from 1976-77 are not comparable with previous years because of the change in the basis of valuation (see page 625). (b) Includes Australian produce and re-exports.

Railways

Passenger and freight train services commenced in December 1980 over the new 831 km standard gauge (1,435 mm) Tarcoola—Alice Springs railway, construction of which commenced at Tarcoola, on the Trans-Australian Railway, in April 1975. It replaces a light pioneer narrow gauge (1,067 mm) line from Marree to Alice Springs, completed in 1929, and subject to frequent flooding and washaways. Tenders have been called for the eventual removal of the Marree—Alice Springs line. Train services on the North Australia Railway, from Darwin to Birdum, ceased on 30 June 1976, by direction of the Commonwealth Government. Australian National Railways is currently carrying out survey work for a proposed new railway between Alice Springs and Darwin.

Roads

The Stuart Highway is the principal north-south axis route for the Northern Territory connecting Alice Springs, Katherine, Tennant Creek and Darwin to Adelaide. The section Darwin—Alice Springs is 1,491 kilometres long and sealed over its full length. The section south of Alice Springs is sealed to the South Australian border, a distance of 293 kilometres.

The Barkly Highway is the principal route to and from Queensland via Mount Isa. It is 648 kilometres long and is sealed. Running approximately east-west, it connects to the Stuart Highway some 26 kilometres north of Tennant Creek.

The Victoria Highway, the principal access route to and from Western Australia via Kununurra, is 467 kilometres long and is sealed.

These highways are used to carry a variety of freight, including cattle, particularly between the railheads at Mount Isa and Alice Springs. They provide access to meatworks at Wyndham (Western Australia), Cloncurry (Queensland) and Katherine. In addition, they play a particularly important part in the Northern Territory economy through their association with the tourist industry.

The first program for upgrading the Stuart and Barkly Highways is complete, while the second program is nearing completion. Future works will be an ongoing program to bring these roads to National Highway Standards.

Water

The Northern Territory Government provides water and wastewater facilities in main centres including Darwin, Alice Springs, Tennant Creek, Katherine, Adelaide River, Batchelor, Pine Creek and many Aboriginal communities. Piped water is available in a number of small settlements including Mataranka, Larrimah, Daly Waters, Elliott, Ti Tree and Finke.

Darwin is served by the Darwin River Dam some 70 km from the city. The earth rockfill dam was completed in 1972. It is 30 m high with a crest length of 564 m, has an active storage of 230 million cubic metres and a safe draft of 90 megalitres per day. A supplementary source, McMinn's borefield, is being assessed to determine a safe yield. Studies are also being carried out to identify future sources to meet the growing needs of the Darwin region.

Alice Springs has twenty bores at Roe Creek, Tennant Creek has eight at Kelly Well and three at Cabbage Gum. Other communities are also supplied from groundwater sources. Katherine is to be supplied with treated water from the Katherine River in place of the hard water from the Tindall limestone aquifer.

Feasibility studies have been completed to assess the economic viability of multi-purpose dams at Keckwick on the Katherine River and Mount Nancarrow on the Daly River.

Soil conservation

The Conservation Commission of the Northern Territory administers soil conservation and control legislation, undertakes resource inventories to assess land capabilities and conducts soil erosion works on behalf of the Government and the private sectors.

Shipping

Shipping services to Darwin are provided from the Eastern States by the Australian National Line container/bulk ore vessel, the MV Darwin Trader on a six weekly service, and from Western Australia by Western Australian State Shipping Service using two unit load vessels providing a fortnightly service. Tankers from Australian and overseas ports deliver oil products to Darwin. General cargo vessels from overseas ports also visit Darwin. The prawning and fishing industry accounts for a significant portion of the shipping entries into the port.

A regular shipping service operates from Brisbane to the Gulf of Carpentaria ports which serves Aboriginal communities as well as the mining centres of Melville Bay (Gove) and Milner Bay (Groote Eylandt), and bulk carriers load ore and other mining products for delivery to ports in Australia and overseas.

Two Darwin-based companies operate landing craft to Aboriginal communities and ports along the coast, and provide one vessel on regular service to Singapore.

Air services

At 1 November 1980 there were 95 licensed aerodromes plus 4 Commonwealth controlled airports in the Territory. Qantas operates international services through Darwin to Rome and London whilst Garuda Indonesian Airways provides a weekly service to Denpasar (Bali). Regular services to Darwin with intermediate stops at some Territory centres are operated by Trans Australian Airlines and Ansett Airlines of Australia from mainland capital cities, by MacRobertson Miller Airline Services from Western Australia and by East West Airlines between Sydney and Alice Springs. Northern Airlines commenced operations in 1980 and provide a network to all major Territory centres. The Northern Territory Aerial Medical Service has aircraft based at Darwin and Gove while the Royal Flying Doctor Service operates from Alice Springs. Regular commuter services operate from Darwin and Katherine to outlying centres. Charter services are available at Darwin, Alice Springs, Gove, Groote Eylandt, Katherine and Tennant Creek. Responsibility for the economic licensing of domestic operations passed from the Commonwealth to the Northern Territory Government on 1 June 1980. The Commonwealth Government retains responsibility for safety and operational aspects and works closely with Territory authorities in the licensing of commercial operations within the Territory.

Post, telegraph, telephone, radio and television

Postal communication is maintained by daily air transport between major Northern Territory centres and the capital cities of Australia. Large centres receive surface mails by two major road mail services operating from Queensland and South Australia. More remote centres are served by aerial services. Direct mail despatches are exchanged between Darwin and several overseas countries.

Trunk telephone links to Darwin extend from Townsville via a broadband microwave radio relay system, and from Adelaide via carrier systems superimposed on the overland telegraph lines. These systems also carry telegraph and data traffic and serve towns along the routes. Subscriber trunk dialling facilities were introduced to Darwin, Nhulunbuy (Gove Peninsula) in 1974 and to Katherine in 1975. ISD (International Subscriber Dialling) was introduced to telephone exchanges in the Darwin area and to Katherine and Nhulunbuy in December 1976. Tennant Creek and Elliott telephone services were connected to automatic with subscriber trunk dialling facilities during 1979.

Completion of Australia's first solar-powered broad-band microwave relay system between Tennant Creek and Alice Springs in October 1979 brought subscriber trunk dialling and ISD facilities to Alice Springs. It also provides live television programs to the National Television Service transmitter at Alice Springs.

Smaller towns in the Northern Territory are progressively being converted to automatic telephone service with STD facilities in a program extending over several years. The most recent of these was Adelaide River, Mataranka, Millingimbi and Bathurst/Melville Islands (Tiwi Exchange). An automatic exchange equipped to 600 lines was provided in November 1980 to service the newly created uranium mining town of Jabiru.

High frequency radio telephone exchanges at Katherine and Alice Springs provide connections to the telephone network for some of the remote properties in the Northern Territory. The majority of

homesteads on pastoral leases are equipped with radio transceivers operating through the Royal Flying Doctor base at Alice Springs or the Telecom Australia Outpost Radio base in Darwin which provide a message passing and emergency communications service.

Regional national broadcasting stations are situated at Darwin, Alice Springs, Tennant Creek, Katherine and Gove and there are commercial broadcasting stations located at Darwin and Alice Springs. Two television stations, ABD Channel 6 of the national broadcasting system and NTD Channel 8, a commercial station, operate in Darwin. The Darwin ABD 6 national program is also broadcast in Katherine (ABKN 7) and Tennant Creek (ABTD 9) with a translator (ABTD 9—10) to give coverage of the mining residential area at Warrigo. A national television station, ABAD Channel 7, operates in Alice Springs.

Education

See also Chapter 12, Education.

Responsibility for education in the Northern Territory was transferred from the Commonwealth Department of Education to the Northern Territory Government on 1 July 1979.

Since that date education services have been provided by the Northern Territory Department of Education.

Details of the responsibilities are outlined in the *Northern Territory of Australia Education Act* 1979. Under the Act, the Minister for Education is responsible for the general administration and control of education services. The Act states that the Minister may take all measures which, in his opinion, are necessary or desirable to assist parents of children in the Territory in fulfilling the responsibility to educate their children according to the individual needs and abilities of those children; to make education services, provided by him, available to all people in the Territory; and to assist all people of the Territory with their own education. The Act also provides for the establishment of Advisory Councils.

Schools in the Northern Territory

At 31 July 1980 there were 141 schools in the Northern Territory with a total school population of 29,535. Of that number 3,071 attended 7 private schools and 1,185 attended 6 mission schools. Approximately 9,900 students were of Aboriginal descent. In addition to primary and pre-schools, there are seven government high schools, one secondary correspondence school and one private high school. There are four area schools offering secondary courses and three residential colleges for Aboriginal students.

There are also 15 government schools in Aboriginal communities that offer post-primary courses and five mission schools with post-primary programs.

Teaching staff are provided by the Commonwealth Teaching Service and qualified applicants are recruited from all parts of Australia.

With the exception of matriculation level, where students sit for examinations offered by the South Australian Public Examinations Board, all aspects of curriculum, course accreditation and student assessment are the responsibility of the Northern Territory Curriculum Advisory Committees, with subject area committees, in Language Arts, Mathematics, Science, Social and Cultural Education, Physical and Health Education, The Arts, and Life/Work Skills. With the exception of Life/Work Skills, which is concerned with secondary education only, all committees span primary and secondary education from Transition to Year 12.

Subject area committees recommend the curricula to be followed in Northern Territory schools, determine the core of essential understandings and processes which students are expected to master in those curricula and assess the students' mastery of the core. Guidelines for all those functions are determined by the Curriculum Advisory Committee which also accredits non-matriculation courses offered to the senior school (post Year 10) students.

A Northern Territory School Leavers' Certificate may be issued to students who leave after having completed at least Year 10.

The work of curriculum committees including the development and implementation of curricula, is supported by educational advisers and a range of educational services.

Two Schools of the Air in the Northern Territory, one at Katherine and one at Alice Springs, have developed individual programs and provide correspondence and radio lessons for students in the years One to Seven. One correspondence school caters for isolated secondary students. Aerial and road patrols are carried out regularly to provide teacher/student and parent contact.

Special schools are located in Alice Springs and Darwin for handicapped children. However, where appropriate, students with special needs are integrated into primary and secondary schools. Guidance and Special Education Advisory services operate from the two Regional Offices in Alice Springs and Darwin.

A program of exchange between Bali (Indonesia) and the Northern Territory is continuing in which two teachers from each country are exchanged for a school year, and four senior students spend up to six months in the other country. The Northern Territory also sponsors a group of junior high school students and teachers from Bali on a two-week educational visit to the Territory each year.

Aboriginal education

Most Northern Territory Aboriginals live away from town centres and their education is provided in various settings including mission schools, government schools on or near Missions or Aboriginal townships, on pastoral properties and outstations or homeland centres.

There has been an increasing number of requests from outstations for the Department of Education to provide assistance. A small group of teachers is currently working in this field and developing special methods and modified courses to help overcome the difficulties faced by isolated outstation groups in their quest for education.

Government schools for Aboriginal children in out-of-town centres provide tuition at pre-school and primary school level with a number of them providing post primary (secondary age) classes as well.

For Aboriginal children who wish to proceed to secondary schools there are now two residential colleges: Yirara and Kormilda, Dhupuma having closed in August 1980. These colleges are regionally based but situated near urban centres, Yirara at Alice Springs and Kormilda in Darwin. They provide secondary age students from outlying centres with the opportunity to undertake a range of courses internally or to attend an urban high school.

Bilingual education programmes in Northern Territory schools in Aboriginal communities have attracted wide interest from within Australia and overseas. There are 14 schools offering bilingual programmes and 3 schools preparing resources for programmes to be introduced in the future. Many other schools include Aboriginal language and culture in the curriculum. Twelve languages are now being used in the programme and research is continuing into another two. Most school children are acquiring initial literacy skills in their own language. Although a large proportion of the curriculum is devoted to instruction in an Aboriginal language, a structured English course forms an integral part of the bilingual programme. Other aspects of Aboriginal education are covered in the TAFE section.

Darwin Community College

The College was opened in 1974 and is an autonomous, multipurpose institution. It has Schools of Business and Management, General Studies, Creative and Applied Arts, Technology and Science, Trades and Linguistics. As well as courses at Advanced Education and TAFE levels leading to awards, the College provides a wide range of non-award recreational classes. It provides lecture and tutorial assistance in a limited range of subjects to external students enrolled at the University of Queensland and at the Adelaide College of Arts and Education. The College has an annex at Nhulunbuy and the School of Australian Linguistics located at Batchelor. By September 1980 the College had recorded 7,661 enrolments for the year in the various courses offered.

Industrial Training

The Northern Territory Industries Training Commission commenced, under the provisions of the Industries Training Act (1979), on 6 June 1980. It continued the tasks formerly undertaken by the Apprenticeship Board, but with additional responsibilities. Commission members represent government, education, employers and employees. Functions include research, special needs, coordination, standards, promotion, accreditation, financial assistance and advice in all matters relating to industry training in the Territory.

Technical and Further Education

Major activities centre round the following areas—

Aboriginal adult education courses

These fall into two categories—

- (a) On site courses run by resident adult educators. Most large Aboriginal communities have an adult educator who offers a variety of vocationally oriented courses to teach new or upgrade existing skills.
- (b) Aboriginal Teacher Education is conducted at Batchelor College which is a TAFE institution offering studies leading to teacher qualifications.

Community College of Central Australia

This TAFE college was formerly an annexe of the Darwin Community College and was known as the Alice Springs Community College. It is now a separate institution administered by the Department of Education and it offers an expanding range of courses in apprentice training, specialised short courses of a vocational nature, recreational courses and general studies.

Katherine Rural Education College

This is a TAFE institution administered by the Department of Education. It offered its first course in 1979 and has developed short practical courses such as horse shoeing, tyre care and maintenance, station power supply, helicopter mustering and water conservation. These are special courses which meet specific local employment needs.

In 1980 a 12-month full-time course in Agriculture and Station Management was established as an alternative to Senior Secondary School Studies.

Finance

The following table gives details of Commonwealth Government receipts and outlays that have been identified as relating specifically to the performance of local or State-type functions in the Northern Territory for 1976-77 and 1977-78. Receipts collected in the Northern Territory from Australia-wide sources (e.g. income taxes, customs duties, etc.) and outlays in the Northern Territory on items of a national character (e.g. defence, civil aviation and cash benefits paid to Northern Territory residents as part of national programs) are *not* included.

In addition to transactions relating to the Northern Territory in the Consolidated Revenue Fund and certain trust funds the transactions of the following public corporations are included: Northern Territory Port Authority, Northern Territory Housing Commission, Corporation of the City of Darwin and Corporation of the Municipality of Alice Springs. Outlay totals for 1977-78 include expenditure authorised by the Northern Territory Legislative Assembly.

On 1 July 1978 the Northern Territory became self-governing with expenditure responsibilities and revenue raising powers broadly approximating those of a State. As a consequence, statistics for 1978-79 onwards show the receipts and outlays of the Northern Territory Government and its subsidiary bodies as a distinct level of government separate from the Commonwealth.

NORTHERN TERRITORY: RECEIPTS AND OUTLAY

(\$'000)

	1978-79			
	1976-77	1977-78	Commonwealth Government	Northern Territory Government
RECEIPTS				
Taxation—				
Payroll tax	7,300	7,630	—	10,381
Rates on land	3,405	3,376	—	4,515
Stamp duties	412	400	—	1,919
Motor registration	1,085	1,129	—	2,460
Other taxes, fees, fines, etc.	2,699	2,686	226	4,137
Interest, rent, etc.	3,765	3,713	—	8,633
Income from public enterprises	—7,510	—5,454	593	—15,108
Net sale of local authority and public corporation securities	3,605	—1,609	—	1,333
Other receipts	2,609	—1,811	—1,060	—9,752
Net charge to Commonwealth Government budget	390,279	370,708	150,214	289,835
Total receipts	407,649	380,768	149,973	298,353

NORTHERN TERRITORY: RECEIPTS AND OUTLAY—*continued*

	1978-79			
	1976-77	1977-78	Commonwealth Government	Northern Territory Government
OUTLAY				
Final consumption expenditure—				
Law, order and public safety	15,168	18,547	1,053	25,134
Education	45,174	54,479	62,317	—
Health	38,499	45,231	24,325	29,764
Social security and welfare	20,953	24,784	18,492	11,597
Other	40,513	45,397	4,292	75,127
Gross fixed capital expenditure on new assets and stocks—				
Education	23,133	20,700	19,427	—
Roads	18,430	24,455	—	33,848
Housing and regional development	97,374	43,606	365	40,457
Health	39,395	30,487	10,163	10,582
Social security and welfare	529	315	57	566
Electricity, gas and water	18,355	24,690	—	34,327
Other	20,049	22,489	601	25,133
Net purchase of existing assets	539	3,074	—	—2,687
Interest paid	275	—105	—	565
Cash benefits	326	182	269	—
Subsidies	455	1,286	—	1,818
Net advances to the private sector—				
Housing and community amenities	18,081	11,049	—	9,545
Other	875	1,564	—	1,356
Grants for private capital purposes	10,081	8,786	8,612	1,221
Advances to public financial enterprises	—555	—248	—	—
Total outlay	407,649	380,768	149,973	298,353

THE AUSTRALIAN CAPITAL TERRITORY

General description

The Constitution provides that the Seat of Government of the Commonwealth of Australia shall be in the State of New South Wales but distant not less than 160 kilometres from Sydney. After a number of alternative sites were considered, an area of 2,395 square kilometres lying approximately 320 kilometres south-west of Sydney was transferred to the Commonwealth as from 1 January 1911. A further 73 square kilometres at Jervis Bay were transferred as from 4 September 1915 to serve as a port for the Territory.

The primary responsibility for administering the Australian Capital Territory lies with the Department of the Capital Territory, whose functions include housing, public transport and municipal services. Education, public health and justice are the responsibilities of the Departments of Education, Health and the Attorney-General. The National Capital Development Commission has the responsibility for the planning and development of the Canberra city area.

In 1974, the A.C.T. Advisory Council, which had been in existence since 1930, was replaced by the A.C.T. Legislative Assembly. The first Assembly was elected on 28 September 1974 and held its first meeting on 28 October 1974.

During 1979, the name of the A.C.T. Legislative Assembly was changed to the A.C.T. House of Assembly. The first election for the House of Assembly was held on 2 June 1979 and first meeting of the House of Assembly was held on 29 June. The Assembly is constituted under the (*Legislative Assembly Ordinance*) Section 10 of which defines its role as follows:

'The Assembly may advise the Minister (for the Capital Territory) in relation to any matter affecting the Territory including the making of new Ordinances or the repeal or amendment of existing Ordinances.'

The Assembly consists of 18 Members (9 from each of the electoral divisions of Canberra and Fraser) and its procedure is modelled on that of the House of Representatives. Its Members serve on a part-time basis.

The Assembly normally considers (and sometimes introduces) Ordinances which are proposed for the Territory. It also passes resolutions on matters affecting the Territory. It is represented on a number of boards, authorities and committees such as the Canberra Commercial Development Authority, the A.C.T. Electricity Authority, the A.C.T. Schools Authority, the Capital Territory Health Commission, the Liquor Licensing Board, the Consumer Affairs Council and the Australian Constitutional Convention.

At 30 June 1980, the population of the Australian Capital Territory was 226,600. *See also* Chapter 6, Demography.

National Capital Development Commission

The *National Capital Development Commission Act* 1957 provides for a Commission to undertake and carry out the planning, development and construction of the City of Canberra as the National Capital of the Commonwealth. The year 1979–80 was the twenty-third year of the Commission's operations. Construction work was carried out by means of agency operations with the Department of Housing and Construction and by private consultants. Expenditure in recent years is as follows: 1976–77, \$204.1 million; 1977–78, \$197.1 million; 1978–79, \$157.1 million. Total expenditure in 1979–1980 was \$136.2 million comprising: land development and services \$4.0 million; water, sewerage and stormwater services and headworks \$6.5 million; housing, flats and other accommodation \$2.5 million; educational facilities \$18.4 million; roads, public transport and traffic control \$22.0 million; city works and associated facilities \$9.5 million; Commonwealth Government offices \$20.5 million; national works \$28.4 million; health and welfare facilities \$3.8 million; others \$20.6 million.

Works and services

Housing

Until the period following the 1939–45 War, most houses and flats in the Australian Capital Territory were built and rented by the then Department of the Interior. More recently, an increasing number of houses and flats have been built by private enterprise and, as a result, the proportion of houses and flats in the Australian Capital Territory occupied by tenants of the Department of the Capital Territory (formerly the Department of the Interior) has fallen from 79.7 per cent of total occupied houses and flats in 1954 to 58.3 per cent in 1961, 38.8 per cent in 1966, 28.1 per cent in 1971 and 22.9 per cent in 1979. Although the bulk of rented accommodation is provided by public authorities (and this situation will continue in the foreseeable future), there has been a considerable increase in the proportion of home ownership in the Australian Capital Territory since 1954. The proportion of houses and flats owned or being purchased by instalments has risen from 19.5 per cent in 1954 to 29.0 per cent in 1961, 45.6 per cent in 1966 and 51.8 per cent in 1971 and approximately 58 per cent in 1978. Home building activity in Woden Valley, Weston Creek, Tuggeranong (south-west of the former city area) and Belconnen (north-west of the former city) area has continued to expand. At June 1979 there were 18,526 occupied dwellings in the Woden Valley and Weston Creek area, 20,615 occupied dwellings in the Belconnen area and 6,466 occupied dwellings in the Tuggeranong area. *See also* Chapter 19, Housing and Construction.

Municipal services

Since its establishment, Canberra has been developed as a garden city. City Parks Administration of the Department of the Capital Territory maintains all established urban parklands and sportsgrounds within the city area which amounted to approximately 7,139 ha in 1979–80, an increase of approximately 505 ha on the 1978–79 total.

The Yarralumla Nursery, established in 1916, continues to propagate trees and shrubs for use in development projects, as replacements in the course of area maintenance and as free issue to new householders. Introduction of new methods has increased productivity and improved quality of stock. During 1979–80 approximately 550,000 plants were propagated, maintaining a constant supply as in the year before.

The National Botanic Gardens and the Horticultural Research Centre at Weston are also part of the City Parks Administration.

The water supply, sewerage and drainage systems in the Australian Capital Territory are operated by the Department of Housing and Construction on behalf of the Department of the Capital Territory.

At 30 June 1980, 65,771 meters were connected to the City Water Supply. The city draws water from 3 storages on the Cotter River with a total capacity of 91,000 megalitres, and a storage of 125,000 megalitres on the Queanbeyan River at Googong. Distribution is via 35 reservoir installations of which 4 are twin tanks. In 1979-80, 62,201 megalitres of water were consumed in Canberra and over the same period a further 3,999 megalitres were supplied to Queanbeyan, N.S.W.

Canberra's sewage is disposed of through the Lower Molonglo Water Quality Control Centre. As at 30 June 1980, 1,775 kilometres of sewers, 14 kilometres of rising sewerage mains, 1,965 kilometres of stormwater drains and a total length of 1,793 kilometres of water line were laid.

Production

See also the chapter dealing with particular subjects.

Lands

Reference has been made in earlier issues of the Year Book to the general conditions of land tenure in the Australian Capital Territory and to the area of alienated and leased land. The chapter Rural Industry in Year Book No. 61 contains statistical information of these subjects.

With minor exceptions the freehold estate of land in the Australian Capital Territory has been acquired by, and is vested in the Crown. The *Seat of Government (Administration) Act* 1910 prevents the sale or disposal of such Crown land for any estate in freehold except in the case of a contract that preceded the Act. Progressively the remaining areas of freehold land are being acquired.

Leases of land for residential, commercial and other purposes in the city area are usually granted under the *City Area Leases Ordinance* 1936. Some special leases for other purposes (such as diplomatic sites or churches) are granted under the *Leases (Special Purposes) Ordinance* 1925 or the *Church Lands Leases Ordinance* 1924. Some areas outside the city area not immediately required for the development of the City or for other public purposes or where there is no intention of development are leased for agriculture or grazing under the *Leases Ordinance* 1918.

The Commonwealth Territory at Jervis Bay, comprising about 73 square kilometres, was acquired from New South Wales for the possible provision of port facilities in connection with the Australian Capital Territory. A portion of the area is occupied by the Royal Australian Naval College (*H.M.A.S. Creswell*) and a Royal Australian Navy airfield. Several blocks fronting Sussex Inlet plus an area on Bowen Island have been leased for guest houses and holiday camps, etc. under the *Leases Ordinance* 1918, and an area of land in the Murray's Beach area has been set aside for possible use as an atomic power station under the control of the Australian Atomic Energy Commission. Apart from picnic and camping areas, experimental planting, afforestation and soil conservation activities, the remainder of the area is being maintained in its natural state.

Forestry

Forestry field operations in the Australian Capital Territory began in 1915 with the planting of pines on the denuded slopes of Mount Stromlo to arrest soil erosion and improve visual quality of the landscape. In 1926, a program for development of commercial forests was approved following a comprehensive review of the Territory's potential for forest development. Major reviews of this program were made in 1932, 1954 and 1967, always, however, retaining the basic policy of systematic conservation and development. All of the better native forest has been placed under management. Forestry operations including fire protection treatment have been extended to some 44,500 hectares of natural forest in the Cotter catchment and adjacent areas. The more productive stands in these areas were harvested extensively to provide timber for Canberra's post-war expansion and were subsequently treated to promote regeneration and protect the quality of water harvested.

The policy of forest management in the Australian Capital Territory has been formulated to cater not only for commercial timber production but also to provide recreation facilities and an attractive visual environment for the national capital and to protect the water supply. These policies can be broadly summarised as follows:

- (a) to manage and develop plantations and hardwood forest area in the Australian Capital Territory and Jervis Bay for production of timber and arrange sales of all forest produce;
- (b) to initiate and maintain a variety of growth and environmental experiments to produce information for management decisions; and
- (c) to develop and implement viable multiple use policies for forest areas with particular emphasis on recreation potential and facilities, quality of water harvest in catchments and conservation of the environment.

The forest authority is charged with the management of some 74,000 hectares of land in the Australian Capital Territory. Of this, some 48,000 hectares carry native forest or woodland. As at 31

March 1980, the total area of coniferous plantations in the Australian Capital Territory and Jervis Bay was 13,910 hectares nett. Of 217 hectares at Jervis Bay, the majority consisted of *Pinus radiata* (Monterey Pine) and *Pinus elliottii* (Slash Pine). The plantations in the Australian Capital Territory consisted mainly of *Pinus radiata* and *Pinus ponderosa* (Yellow Pine). Total area of *Pinus radiata* was 13,057 hectares.

In 1979-80 there was no commercial production of hardwood timber from the Australian Capital Territory and Jervis Bay. The volume of softwood cut was 206,000 cubic metres. The total value of this unprocessed timber unloaded at the mill (milldoor value) was \$4.4 million.

Agricultural, pastoral and secondary industries

In the seven years since 1973-74 the number of agricultural establishments in the Australian Capital Territory has fallen from 154 to 95. The more important items produced in 1979-80 were: wheat for grain 962 tonnes; wool 411 tonnes; whole milk 0.6 million litres; meat (carcass weight) 10,600 tonnes. Livestock numbers at 31 March 1980 included 13,543 cattle and 97,732 sheep.

Secondary industries established in the Australian Capital Territory are largely the service industries associated with the growth of the Territory.

AUSTRALIAN CAPITAL TERRITORY: MANUFACTURING ESTABLISHMENTS—1976-77 to 1978-79

		1976-77	1977-78(a)	1978-79 (a)
Establishments operating during year	No.	101	90	117
Persons employed (b)	No.	3,448	2,892	3,073
Wages and salaries	\$m	31.4	29.9	33.7
Turnover	\$m	103.5	100.8	118.8
Opening stocks at 30 June	\$m	10.7	9.8	12.2
Closing stocks at 30 June	\$m	11.4	10.7	11.4
Purchases, transfers in and selected expenses (c)	\$m	48.5	48.5	57.4
Value added (c)	\$m	55.8	53.2	60.6

(a) Classified to industry according to the 1978 Edition of the Australian Standard Industrial Classification (ASIC). The 1969 Preliminary edition of the ASIC was used in preceding years. (b) Average over whole year. Includes working proprietors. (c) Data in this table have been revised to comply with changes in the ABS definition of *value added*. 'Rent, leasing and hiring expenses' and 'Rent, leasing and hiring revenue', previously excluded from the *value added* calculation, are now included.

Commercial practices

There is growing awareness of consumer rights as evidenced by the increasing number of enquiries received by the A.C.T. Consumer Affairs Bureau and the wide range of consumer oriented legislation.

The Bureau receives and investigates complaints from consumers, conducts research into matters affecting consumer interests and provides information of benefit to consumers.

Control over weights and measures standards has traditionally been, and remains, a prerequisite for fair commercial transactions. The Weights and Measures Office periodically examines the scales and measures used for trade.

In the A.C.T., licensing is used as a means of regulating some commercial practices by establishing minimum standards of qualifications and/or experience for entry into certain occupations. These include motor vehicle dealers, stock and station and real estate agents, and pawnbrokers and secondhand dealers.

The *Co-operative Societies Ordinance* 1939 provides for the incorporation of trading societies, building societies, housing and service societies and credit unions. The Registrar is responsible for the incorporation of new societies, the registration of documents, inspections and inquiries into the working and financial situation of societies and the hearing and determination of certain disputes between a society and a member.

In Canberra there are two retail fruit and vegetable markets. These have been established and are operated and controlled by the Canberra Retail Market Trust.

Transport and communication

Canberra is connected with the railway system of New South Wales at Queanbeyan by a line 8 kilometres long. This line was opened for goods traffic on 25 May 1914 and for passenger traffic on 15 October 1923. Direct or linking services operate between Canberra and Sydney, and Canberra and Melbourne. The two major domestic airlines provide many services daily each way on the Sydney-Canberra-Melbourne route, while four smaller carriers operate services to provincial centres. Regular motor coach services link Canberra with towns in New South Wales, Victoria and South Australia. The total length of roads in the Territory at 30 June 1977 was: inner-urban, 1,464 kilometres; outer-urban,

281 kilometres; tourist development roads, 63 kilometres; total 1,808 kilometres. At 30 June 1979 there were also 67 kilometres of trunk cycle paths connecting suburbs with Canberra's major business centres. The Department of the Capital Territory is responsible for the regulation of transport and traffic under an A.C.T. Ordinance. ACTION, the Australian Capital Territory Internal Omnibus Network, is also operated by the Department of the Capital Territory. It operated 367 buses in 1979-80, over 71 routes covering 838 kilometres. A total of 10,932,262 kilometres was travelled and an estimated 19,500,000 passenger journeys made.

There are six radio broadcasting stations in the Territory: 2CY, 2CN and ABC-FM of the national broadcasting system; two commercial stations, 2CA and 2CC; and one community station, 2XX. There are two television stations, ABC Channel 3 of the national broadcasting system and CTC Channel 7, a commercial station.

Social

See also Chapter 12, Education; Chapter 10, Health; and Chapter 11, Law and Order.

Schools

The *Education Ordinance* 1937 provides for the compulsory attendance at school of children between the ages of six and fifteen years. Government schools are administered by the A.C.T. Schools Authority, which became a Statutory body in January 1977. The Authority is representative of teachers, parents and the community. The A.C.T. Schools Accrediting Agency within the Authority system accredits courses and administers student assessment procedures for Years 11 and 12. These procedures replaced the New South Wales Higher School Certificate examination at the end of 1976.

In July 1980 there were sixteen government high schools in the Australian Capital Territory, and seven secondary colleges. High schools cater for Years 7 to 10 and secondary colleges for Years 11 and 12. Secondary students enrolled numbered 14,467.

Sixty-two schools provide courses at primary levels, three of these being in rural districts and one in the Jervis Bay area. The number of pupils enrolled in primary grades of government schools at July 1980 was 24,472.

At the same time enrolments at the six government special schools totalled 329.

There were 2,657 teachers in A.C.T. government schools and pre-schools in July 1980.

Hartley Street Centre for physically handicapped children is located at Turner Primary School. It incorporates a pre-school section. Special units for deaf children are situated at Page and Mawson Primary Schools and Telopea Park High School.

Blind children attend Turner Primary School, Campbell, Watson and Woden Valley High Schools and partially sighted children enrol in the school nearest their home. Learning centres for mildly intellectually handicapped children are provided at Ainslie, Curtin South, Jervis Bay, Macgregor, Rivett and Scullin Primary Schools. Lyneham High School, Weston Creek High School and the Woden School provide services for mildly intellectually handicapped secondary students. Three special schools (Malkara, Cranleigh, Koomarri) incorporating pre-school sections serve the needs of moderately and severely intellectually handicapped children. Twelve primary schools cater for children of junior primary age who are unable to adjust to a normal class situation. One of these classes specialises in the care of children with language and communication disorders. Special English classes for migrant children are available at twenty-nine primary schools, seven high schools and two secondary colleges. A number of children with physical, mild intellectual, and partial hearing handicaps are being integrated into neighbourhood schools.

Educational guidance services are provided by the Education Clinic and through counselling staff attached to schools.

The Introductory English Centre is attached to Telopea Park High School. It is for secondary school migrant children arriving in the Territory with no English. They attend for up to six months and then return to their neighbourhood school or college if it contains an ESL unit.

The seventy-two pre-schools, including one in the Jervis Bay area and a mobile unit which visits outlying areas of the Australian Capital Territory, provide pre-school facilities for approximately 5,000 children between the ages of three and five years. Provision is made at all pre-schools for the additional enrolment of children who have minimal problems such as speech, behavioural and family problems.

In July 1980 there were thirty non-government primary schools in Canberra and twelve secondary schools. At the same time 9,406 pupils were enrolled in the primary grades of non-government schools and 6,960 pupils were enrolled in the secondary forms of non-government schools.

A.C.T. Further Education

The Office of A.C.T. Further Education which operates within the structure of the Department of Education is responsible for the Technical and Further Education Colleges.

There are presently three TAFE Colleges in the A.C.T. These are Canberra, Bruce and Woden. The Woden TAFE College began teaching in 1980. The new building in the heart of the Woden complex was opened in 1981. These Colleges provide trade, post trade, certificate, craft and leisure type courses at their main campuses and at several annexes. In the year ended 31 December 1979 there were 14,592 students enrolled; 13,112 in Technical and Further Education courses and 1,480 in Adult Migrant Education courses.

The Canberra School of Art and the Canberra School of Music are also part of the A.C.T. Further Education system. The Canberra School of Art offers Diploma of Arts (Visual) three years full-time study (or part-time equivalent), an Associate Diploma of Arts (Visual) with two years full-time study (or part-time equivalent). It also provides art courses for students from the Canberra College of Advanced Education as well as non-vocational classes for the community in general. In the year ended 31 December 1979 there were 708 students enrolled.

The Canberra School of Music offers a four year full-time Bachelor of Arts (Music). Courses for Canberra College of Advanced Education students and single study classes for part-time students are also offered. In the year ended 31 December 1979 there were 435 students enrolled.

It should be noted that student enrolment figures shown here have been adjusted for those students enrolled in more than one course at any time during the reference year. Student enrolment data shown in previous Year Books has not been adjusted in this matter and is therefore not comparable.

Other Tertiary Educational Institutions

The Canberra College of Advanced Education is administered by a Governing Council constituted under an Act of Parliament and offers courses in six schools—Administrative Studies, Applied Science, Liberal Studies, Teacher Education, Information Sciences and Environmental Design. Courses have a professional or vocational orientation and lead to master and bachelor degrees, and associate and graduate diplomas. There were 5,502 students enrolled at 30 April 1980.

The Australian National University was established by an Act of Parliament and is administered by its governing Council. The Institute of Advanced Studies within the University is a centre for research and training in research. It includes the John Curtin School of Medical Research and Research Schools of Physical Sciences, Social Sciences, Pacific Studies, Chemistry, Biological Sciences and Earth Sciences. The faculties carry out both undergraduate and post-graduate training and research and are composed of the faculties of Arts, Asian Studies, Economics, Law and Science. The total student enrolment at 30 April 1980 was 6,124.

The University has established the following centres: Centre for Resource and Environmental Studies; Humanities Research Centre; North Australia Research Unit (based in Darwin); Survey Research Centre; Centre for Continuing Education; Computer Centre; Office for Research in Academic Methods; and the National Health and Medical Research Council Social Psychiatry Research Unit.

Continuing education

The Centre for Continuing Education, which is run by the Australian National University, is intended to foster 'the learning society' by enriching the contacts between the university and the community to their mutual advantage. The Centre offers a wide range of courses in the natural and social sciences and the humanities.

Evening classes are provided in some A.C.T. schools as a continuing education service of the A.C.T. Schools Authority. They provide courses leading to the award of a certificate for entry to post-secondary and tertiary institutions, and to the Public Service Qualifying Examinations. A variety of craft and cultural courses are also offered as evening classes.

Apprenticeship training

At 30 June 1980, 1,428 indentured apprentices were in training in the 55 declared apprenticeship trades in the Australian Capital Territory. Apprentices were employed by 760 approved employers. During 1979-80 there were 1,162 applications for apprenticeship. New indentures totalling 473 were registered, representing a decrease of 1.3 per cent in new indentures on 1978-79 totals. In this period 429 apprenticeships were completed and 216 cancelled. Trade courses at the Canberra and Bruce TAFE Colleges are supplemented, where required, by remedial classes in Mathematics and English.

Adult migrant education

The Office of A.C.T. Further Education, on behalf of the Department of Immigration and Ethnic Affairs, is responsible for the Adult Migrant Education Program in the A.C.T.

All English classes are free and they are open to migrants who are permanent residents of Australia.

The language program is organised in two strands. These are an on-going strand for migrants who have been in Australia for some time and an on-arrival strand for newly arrived migrants. As part of the on-going program part-time classes are offered at different levels and at various times in the day and evening. A more intensive part-time course, aimed primarily at unemployed migrants whose lack of proficiency in the English language is prejudicing their employment prospects, is available as is a full-time accelerated English course lasting ten weeks.

As well, English classes are provided in the work place either partly or wholly within working hours. Migrants who are unable to attend classes may undertake a correspondence course, or have a tutor visit them in their own homes.

The on-arrival strand of the program caters for migrants who have arrived in Australia within the previous six months. The full-time courses offered provide an introduction to Australian society and way of life as well as a basic English language instruction. On completion, students are encouraged to enrol in part-time classes.

All migrants attending full-time courses are eligible to receive a living allowance.

Tourism

Tourism has quickly become a major factor in the A.C.T. economy and in the planning and development of the Capital. A large-scale, Government-commissioned study conducted in 1975-76 estimated 2.5 million visitors for the year, spending \$72 million in the A.C.T. and Queanbeyan. Continuing surveys based on the study findings indicate 3.2 million visitors per annum to the area by 1986. Tourism, a labour-intensive industry, will grow in economic significance to the A.C.T.; for 1980, visitor spending is expected to exceed \$120 million.

The official tourist servicing and promotional operation in the A.C.T. is provided by the Department of the Capital Territory through the A.C.T. Government Tourist Bureau. Planning and development of physical facilities remain the responsibility of the National Capital Development Commission.

The Bureau operates a highway reception and information centre on the northern (main) gateway to the city, and a branch office in Sydney. Total operational costs, including salaries and overtime, will amount to approximately \$879,000 in 1980-81.

Most patronised tourist features in the A.C.T. are the Australian War Memorial, the Black Mountain Telecommunication Tower, the High Court of Australia, Parliament House, the National Library, the Royal Australian Mint, and the mountain lookouts and reserves. Major new attractions under construction are the National Gallery and the new and permanent Parliament House.

Finance

In the following table, identifiable receipts and outlay relating to the Australian Capital Territory have been classified in a National Accounts form. The table covers transactions of the Commonwealth Government in respect of the Australian Capital Territory in the Consolidated Revenue Fund and the following trust funds: Australian Capital Territory Forestry, Australian Capital Territory Housing, Australian Capital Territory Transport and Australian Capital Territory Suspense. In addition, details of the financial transactions of the following public corporations are also covered: Australian Capital Territory Electricity Authority, Commonwealth Brickworks, National Capital Development Commission, the Canberra Theatre Trust, the Canberra College of Advanced Education, A.C.T. Poker Machine Licensing Board, Canberra Commercial Development Authority, A.C.T. Totalisator Agency Board and the Capital Territory Health Commission including the Canberra and Woden Valley Hospitals. Not included are revenue derived by the Commonwealth Government from income taxes, sales tax, etc. levied in the Australian Capital Territory; outlay on items of a national character such as defence, civil aviation, railways, etc.; and payments to residents from the National Welfare Fund.

AUSTRALIAN CAPITAL TERRITORY: RECEIPTS AND OUTLAY

(\$'000)

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
RECEIPTS						
Taxation—						
Rates on land	6,138	7,139	10,464	12,098	13,634	15,011
Liquor	589	710	984	1,260	1,325	2,395
Motor registration and licences	2,398	3,374	4,322	4,954	7,127	7,859
Payroll tax	4,149	9,038	10,761	11,296	11,945	13,142
Stamp duties	3,995	3,433	4,162	4,455	5,003	5,573
Other taxes, fees, fines, etc.	689	748	1,413	1,635	2,839	4,223
Interest, rent, etc.	13,744	13,514	16,920	21,899	26,214	28,602
Income from public enterprises	2,458	864	3,541	4,566	4,301	2,106
Net sale of public corporation securities	-102	-214	3,605	(a) 27,903	(a) 15,492	6,816
Other receipts	2,035	1,985	473	(a) -9,780	18,125	12,443
Net charge to Commonwealth Government budget	166,356	261,657	313,283	316,291	329,215	294,767
Total receipts	202,450	302,248	369,928	396,577	435,220	392,937
OUTLAY						
Final consumption expenditure—						
Law, order and public safety	7,390	10,420	10,156	13,808	16,109	19,215
Education	32,027	49,019	65,233	79,089	90,619	100,595
Health, social security and welfare	15,949	23,857	35,144	44,711	52,855	58,919
Other	29,040	43,068	48,767	49,727	47,038	43,601
Expenditure on new fixed assets and stocks—						
Education	15,386	22,111	34,139	31,186	26,367	20,676
Health, social security and welfare	4,937	11,006	11,322	7,406	8,493	8,941
Housing	-4,344	7,811	7,749	-1,777	-5,263	-4,751
Community and regional development	25,668	36,675	36,467	35,235	32,984	16,000
Protection of the environment	8,198	17,301	27,424	24,277	13,212	8,266
Recreation and related cultural services	3,630	4,851	7,088	10,371	11,751	13,949
Electricity, gas and water	5,718	5,647	12,170	28,817	25,495	16,465
Roads	9,432	10,264	11,607	11,937	30,819	31,882
Other	23,417	28,479	43,876	49,535	63,828	56,217
Net purchase of existing assets	-4,935	-5,485	-21,084	-19,426	-13,604	-17,423
Interest paid	582	664	665	1,072	3,576	5,040
Cash benefits	23	18	13	8	..	..
Subsidies	67	120	143	167	207	191
Net advances for housing	29,076	29,796	29,451	19,480	21,493	7,566
Grants for private capital purposes	1,188	6,626	9,599	10,954	9,240	7,588
Total outlay	202,450	302,248	369,928	396,577	435,220	392,937

(a) Includes financing transactions of the Canberra Commercial Development Authority.

NORFOLK ISLAND

General description

Norfolk Island, discovered by Captain Cook in 1774, is situated in latitude 29°02'S, longitude 167°57'E approximately. Its total area is approximately 3,455 hectares, the island being about 8 kilometres long and 5 kilometres wide. It is 1,676 kilometres from Sydney and 1,063 kilometres from Auckland. The coastline, which is 32 kilometres long, consists of almost inaccessible cliffs rising from the waters edge, except at Kingston in the south and the landing place at Cascade on the northern side. The climate is equable, the average daily maximum temperature varying between 16°C and 28°C, and the average annual rainfall is 1,350 millimetres. The resident population is about 1,700.

The island served as a penal station from 1788 to 1813 and from 1825 to 1855. In 1856, 194 descendants of the *Bounty* mutineers were transferred there from Pitcairn Island.

Administration

In 1856, the Island was created a distinct and separate settlement under the jurisdiction of the Governor of New South Wales. In 1897 it was made a dependency under the Governor of that Colony, and finally, by the passage of the *Norfolk Island Act* 1913, became a Territory of Australia. It is controlled by the Minister for Home Affairs and Environment through an Administrator.

In May 1978 the Government announced that it should try to develop for Norfolk Island a form of Government involving the Island's own elected representatives under which the necessary revenue could be raised by its own system of law.

The *Norfolk Island Act* 1979, which was assented to on 30 May, established the framework for this objective. The passage of this Act followed a series of detailed discussions between the Minister for Home Affairs and Environment and the Norfolk Island Council, the Island's advisory body.

In broad terms, the Act equips Norfolk Island with responsible legislative and executive government to enable it to run its own affairs to the greatest practicable extent.

Wide powers are exercised by the Norfolk Island Legislative Assembly and by an Executive Council, comprising the executive members of the Legislative Assembly who have ministerial-type responsibilities.

The Act preserves the Commonwealth's responsibility for Norfolk Island as a Territory under its authority, and indicates the Parliament's intention that consideration will be given to an extension of the powers of the Legislative Assembly and the political and administrative institutions of Norfolk Island within five years.

The island's Supreme Court sits as required and a Court of Petty Sessions exercises both civil and criminal jurisdiction.

The Office of the Administrator is financed from Commonwealth expenditure which amounted to \$134,657 in 1979-80. A further \$289,300 was provided by the Commonwealth during the year for the restoration and maintenance of historic structures.

Economic activity

The major economic activity of the island is tourism. Primary production is not fully adequate for local needs and foodstuffs are imported from New Zealand and Australia, mainly for the tourist trade.

Primary industries. The soil on the island is particularly fertile, the climate equable and the rainfall fairly evenly distributed except for a pronounced dry period in November. This enables a wide range of temperate and semi-tropical products to be cultivated. However, the island's comparative isolation presents trading difficulties, and there is only very limited production of export crops.

Fish abound off the island. In the past a number of ventures have been formed to exploit this resource, but they have been short-lived, mainly because of the lack of sheltered harbour. A modern whaling station was started on the island in 1955, and production commenced during the second half of 1956. Owing to a marked scarcity of whales after 1961, however, the station was closed down.

An active forestry program is being carried out to increase the resources of Norfolk Island Pine and to introduce suitable types of eucalypts.

Tourists. Regular sea and air services to the island are available for those who seek a quiet holiday in surroundings of beauty and historic interest. At present, accommodation consists of flats and hotels as well as licensed and unlicensed guest houses. Further accommodation is being built to meet the steadily increasing number of visitors.

Employment. A large proportion of the population derives its income from various aspects of the tourist industry including the operation of hotels and duty-free stores. The Commonwealth Government provides service through staff from the Departments of Transport and Science and Technology (Bureau of Meteorology) and teachers are seconded by the N.S.W. State Education Department. A number of clerical and other positions are available to islanders in the Norfolk Island Administration. Very few people rely for their income entirely on agricultural pursuits.

Trade, transport and communication

Imports to Norfolk Island since the 1939-45 War have risen from \$65,000 in 1945-46 to nearly \$11 million in 1979-80. The major proportion came from Australia, the Pacific Islands, and New Zealand. Exports in 1979-80 amounted to \$1.6 million to Australia, the Pacific Islands, and New Zealand; the principal markets. No duties are chargeable on goods imported into Australia from Norfolk Island if (i) the goods are produced or manufactured in Norfolk Island and shipped direct to Australia, and (ii) not goods which, if manufactured or produced in Australia, would be subject to excise duty.

Two shipping companies operate services to Norfolk Island at approximately monthly intervals, linking the Island with Australia, New Zealand and other islands in the South Pacific area.

A passenger and air freight service between Sydney and Norfolk Island is operated by East-West Airlines Ltd. six times a week, and more frequently in peak periods. Air New Zealand Limited provides a service five times a week to the Island from Auckland. A light aircraft charter service operates between the island and Brisbane.

There are approximately 80 kilometres of motor roads on the island. A substantial section of the population possesses private motor cars. Hire cars, taxis and scooters are available.

The island has an automatic telephone service and radio telephone link with Sydney. A local broadcasting service is operated by the Administration.

Education

Education is free and compulsory between the ages of 6 and 15 years. The school, which is conducted for the Administration by the New South Wales Department of Education, conforms to the Australian standard of public education, ranging from Kindergarten to the School Certificate (Year 10) level. The number of students enrolled at 30 June 1980 was 303.

Some bursaries, subject to a means test, are available for pupils who wish to attend a mainland school either to continue their studies beyond the School Certificate level or to undertake high school courses not available on the Island. A limited number of trainee scholarships are available for pupils who have left school and wish to undertake apprenticeships or similar training away from the Island.

Judiciary

The judicial system of Norfolk Island consists of a Supreme Court and a Court of Petty Sessions. The Supreme Court is the highest judicial authority in the Territory and is a superior court of record with original criminal and civil jurisdiction. The jurisdiction of the court is exercised by one judge sitting in court or, to the extent that in the cases provided by or under ordinance, sitting in chambers. The jurisdiction of the Court of Petty Sessions is exercised by the Chief Magistrate or any three magistrates other than the Chief Magistrate.

Finance

Since Norfolk Island became a territory of the Commonwealth Government in 1913 its revenue has been supplemented by annual grants from the Commonwealth Government, internal revenue alone not being sufficient to meet the cost of public works and services. The principal items of revenue and expenditure in recent years were as follows:

NORFOLK ISLAND: REVENUE AND EXPENDITURE

(\$'000)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
REVENUE						
Government grant	126	126	126	126	144	—
Customs duty	410	387	403	472	566	680
Liquor profit	149	184	207	233	285	332
Company fees	198	178	208	237	187	137
Sale of stamps	348	297	425	550	613	856
Vehicle registration and licence fees	43	44	52	73	77	77
Government advance (repayable) .	—	—	—	—	—	—
All other	134	166	258	330	412	427
Total revenue	1,408	1,382	1,679	2,021	2,284	2,509
EXPENDITURE						
Administration	240	472	645	704	786	736
Education services	146	209	245	291	322	122
Health and welfare services	98	176	164	250	275	312
Repairs and maintenance	211	200	227	251	302	389
Postal services	150	n.a.	n.a.	n.a.	n.a.	n.a.
Capital works and services	128	429	170	124	252	252
Miscellaneous services	104	125	133	413	172	242
Legislative Assembly	n.a.	n.a.	n.a.	n.a.	n.a.	92
Total expenditure	1,077	1,611	1,584	1,782	2,109	2,145

HEARD ISLAND AND McDONALD ISLANDS

These islands, about 4,100 kilometres south-west of Fremantle, were transferred from the United Kingdom to Australia as from 26 December 1947. The laws of the Australian Capital Territory were declared to be in force in the Territory of Heard Island and McDonald Islands by the *Heard and McDonald Islands Act* 1953. In 1968, the responsibility for the administration of this Act was transferred from the Minister for External Affairs to the Minister for Supply, and in 1972 the responsibility was transferred to the Minister for Science.

In December 1947, an Australian scientific station was established on Heard Island. Meteorological investigations were conducted until the station was closed in March 1955 following the establishment of Mawson station on the Antarctic mainland. Australian expeditions have since visited the Island

from time to time. Heard Island is about 43 kilometres long and 20 kilometres wide. The McDonald Islands are 43 kilometres to the west of Heard Island. They are small, rocky and precipitous. The first known landing on McDonald Island, the largest of the group of the same name, took place on 27 January 1971 when two members of the Australian National Antarctic Research Expeditions (ANARE) paid a short visit on their way to the Heard Island station.

AUSTRALIAN ANTARCTIC TERRITORY

An Imperial Order in Council of 7 February 1933 placed under Australian authority all the islands and territories other than Terre Adelie situated south of 60°S latitude and lying between 160°E longitude and 45°E longitude. The Order came into force with a Proclamation issued by the Governor-General on 24 August 1936 after the passage of the *Australian Antarctic Territory Acceptance Act* 1933. The boundaries of Terre Adelie were definitively fixed by a French Decree of 1 April 1938 as the islands and territories south of 60°S latitude lying between 136°E longitude and 142°E longitude. The *Australian Antarctic Territory Act* 1954 declared that the laws in force in the Australian Capital Territory are, so far as they are applicable and are not inconsistent with any ordinance made under the Act, in force in the Australian Antarctic Territory. In 1968 responsibility for the administration of this Act was transferred from the Minister for External Affairs to the Minister for Supply, and in 1972 the responsibility was transferred to the Minister for Science.

On 13 February 1954 the Australian National Antarctic Research Expeditions (ANARE) established a station on MacRobertson Land at latitude 67° 36'S and longitude 62° 53'E. The station was named Mawson in honour of the late Sir Douglas Mawson and was the first permanent Australian station to be set up on the Antarctic continent. Meteorological and other scientific research is conducted at Mawson, which is a centre for coastal and inland survey expeditions.

A second Australian scientific research station was established on the coast of Princess Elizabeth Land on 13 January 1957 at latitude 68° 35'S and longitude 77° 58'E. The station was named in honour of the late Captain John King Davis, second-in-command of two of Mawson's expeditions and master of several famous Antarctic ships. The station was temporarily closed on 25 January 1965 and re-opened on 15 February 1969. On 4 February 1959 the Commonwealth Government accepted from the United States Government custody of Wilkes station, which was established by the United States on 16 January 1957 on Vincennes Bay at latitude 66° 15'S and longitude 110° 32'E. The station was named in honour of Lieutenant Charles Wilkes who commanded the 1838-42 United States expedition to the area. The station was closed on 19 February 1969 when activities were transferred to Casey station built about 2 kilometres south of Wilkes. Casey station, which was opened on 19 February 1969, was named in honour of Baron Casey, former Governor-General of Australia, in recognition of this long association with Australia's Antarctic effort.

In 1957, as part of the International Geophysical Year (IGY), twelve nations co-operated in research programs covering a broad range of scientific pursuits. The outstanding co-operation between nations in the Antarctic during the IGY gave rise to discussions which resulted in the Antarctic Treaty. On 1 December 1959 the Antarctic Treaty was signed by the nations that had been active in Antarctica during the IGY, including all of those with territorial claims. The original signatories were Argentina, Australia, Belgium, U.K., Chile, France, Japan, New Zealand, Norway, South Africa, the U.S.S.R., and U.S.A. The Treaty entered into force for Australia on 23 June 1961. The Treaty, *inter alia*, reserves the Antarctic area south of 60°S latitude for peaceful purposes, provides for international co-operation in scientific investigations and research, and preserves for the duration of the Treaty the *status quo* with regard to territorial sovereignty, rights and claims.

The original signatories of the Treaty, the Consultative Parties, meet at approximately two yearly intervals at Antarctic Treaty Consultative Meetings. Only Consultative Parties may participate in the Consultative Meetings. Nine Consultative Meetings have been held since the Treaty was signed, the first being held in Canberra in 1961.

The Treaty makes provision for other states to accede to it. Since 1959, seven nations have acceded: Brazil, Poland, German Democratic Republic, Czechoslovakia, Romania, Denmark and the Netherlands. The Treaty also makes provision in Article IX (2) for acceding nations to become Consultative Parties " . . . during such times as the Contracting Party demonstrates its interest in Antarctica by conducting substantial research activity there, such as the establishment of a scientific station, or the despatch of a scientific expedition". In July 1977, Poland was acknowledged by the Consultative Parties to have fulfilled the requirements established in Article IX (2) of the Antarctic Treaty and, as a consequence, to have the right to appoint representatives to participate in the Consultative Meetings. Poland subsequently attended the Ninth Antarctic Treaty Consultative Meeting.

At a diplomatic conference in Canberra in May 1980, Treaty Partners adopted the Convention for the Conservation of Antarctic Marine Living Resources. This Convention establishes the basis of a conservation regime for the entire ecosystem of the Southern Ocean. Australia is the depository Government for the Convention. The headquarters of the International Commission, formed under the Convention, will be established in Hobart.

COCOS (KEELING) ISLANDS

General description

The Cocos (Keeling) Islands, two separate atolls comprising some twenty-seven small coral islands with a total area of about 14 square kilometres, are situated in the Indian Ocean in latitude 12° 05'S and longitude 96° 53'E. They lie some 2,768 kilometres north-west of Perth and 3,685 kilometres west of Darwin.

The main islands of the Territory are West Island, the largest, about 10 kilometres long, on which are the airport, the Administration and the community of mainland-recruited employees; Home Island, where the Cocos Malay community lives; Direction Island; South Island; and Horsburgh Island. North Keeling Island, which forms part of the Territory, lies about 24 kilometres to the north of the group and has no inhabitants.

The main atoll is low-lying, flat, and thickly covered by coconut palms, and surrounds a lagoon which has an anchorage in the northern part but which is extremely difficult for navigation.

The climate is equable and pleasant, usually being under the influence of the south-east trade winds for about nine months of the year. However, the winds vary at times, and meteorological reports from the Territory are particularly valuable for those engaged in forecasting for the eastern Indian Ocean. The temperature varies between 21°C and 32°C, and the average yearly rainfall is 1,998 millimetres. There are occasional violent storms. The estimated population at 30 June 1980 was 487.

History and administration

Summarised particulars of the discovery of the islands and their history up to 1946, when they became a dependency of the colony of Singapore, are given in Year Book No. 51, page 140, and in earlier issues. On 23 November 1955 the Cocos Islands ceased to form part of the Colony of Singapore and were placed under the authority of Australia. The transfer was effected by an Order in Council made by Her Majesty Queen Elizabeth the Second under the Imperial Act titled the *Cocos Islands Act* 1955 and by the *Cocos (Keeling) Islands Act* 1955 of the Commonwealth Parliament whereby the islands were declared to be accepted by Australia as a Territory to be known as the Territory of Cocos (Keeling) Islands.

Responsibility for the administration of the Territory rests with the Minister for Home Affairs and Environment. An Administrator was appointed to administer the Territory on behalf of Australia on 23 July 1975 under the *Cocos Administration Ordinance*. This Ordinance provides for an upgrading of the level of Government representation in the Territory. Until 23 July 1975 an official Representative appointed by the Minister under the then *Official Representative Ordinance* 1955 exercised such powers and functions in relation to the Territory as were delegated to him by the Minister under the *Cocos (Keeling) Islands Act* 1955 or were otherwise conferred on him under that Act or under any other law of the Territory. The laws of the Colony of Singapore which were in force in the islands immediately before the date of the transfer were, with certain exceptions, continued in force by the *Cocos (Keeling) Islands Act* 1955. They may be amended or repealed by Ordinances made under the provisions of that Act which empower the Governor-General to make Ordinances for the peace, order and good government of the Territory.

Policy goals for the Territory were announced by the Government on 16 June 1977. Important steps forward in the implementation of these goals have followed the Commonwealth's purchase from Mr John Clunies-Ross of the whole of his interests in the Cocos (Keeling) Islands with the exception of his residence and an associated dwelling. The purchase took effect on 1 September 1978.

On 30 January 1979, the Government leased the copra plantation and some other land purchased from Mr Clunies-Ross to the Cocos Islands Co-operative Society Limited. The Government now contracts with the Co-operative for the provision of certain services it requires. The contract payments are based on Australian prices and rates.

The economy of the Cocos Malay community is now largely in the community's own hands and is essentially self-sufficient.

On 17 May 1979, the *Local Government Ordinance* 1979 was enacted under which the Cocos (Keeling) Islands Council was established. The Ordinance gives the elected Council responsibility for a

wide range of functions in the Home Island village area, which the Government has transferred to the Council upon trust for the benefit of the Cocos community. The Council also advises the Administrator on any other matters that may affect the Territory and comments on all proposed legislation for the Territory.

A separate Cocos Postal Service came into operation on 3 September 1979. Revenue from the Service is to be used for the benefit of the Cocos Malay community.

Considerable improvements have also been made in other areas, particularly in education and health.

Transport and communication

There is an airport of international standard at West Island, controlled by the Administrator under licence from the Department of Transport. There is a regular Perth-Cocos (Keeling) Islands-Christmas Island-Perth charter service every 2 weeks. Under charter arrangements, a shipping service operates to the Territory at intervals of several months. A radio telephone service between West Island and Perth is maintained by the Administration. There are local postal and telephone services, and a non-commercial broadcasting station.

CHRISTMAS ISLAND

Christmas Island is an isolated peak situated in the Indian Ocean in latitude 10°25'S, longitude 105°40'E. It is approximately 360 kilometres south from Java Head at the south entrance to Sunda Strait, 1,300 kilometres from Singapore and 2,600 kilometres from Perth. Christmas Island covers an area of about 135 square kilometres. It consists of a central plateau about 150 to 250 metres above sea level with several prominent rises up to 360 metres high. The plateau descends to the sea in a series of steep slopes alternating with terraces. Sea cliffs over 200 metres high run along a considerable portion of the coastline except in a few places, the chief of which is Flying Fish Cove where the principal settlement is located and which is also the only anchorage.

The climate is pleasant, the prevailing winds coming from the south-east to east-south-east from May to December, and occasionally shifting round to between north and west from December to April (the wet season). The average yearly rainfall is about 2,673 mm with a marked summer incidence. The porous nature of the ground prevents the formation of pools of water, but there are several good springs which maintain an adequate supply of fresh water for the small population and the installations. The mean average temperature is about 27°C, and does not vary greatly throughout the year.

Economy

The economy of the Territory is based almost entirely on the mining and extraction of phosphate. During the year ended 30 June 1980, 1,430,950 tonnes of phosphate rock, 110,227 tonnes of phosphate dust and 3,000 tonnes of citraphos/calciphos were exported. To minimise the impact on the environment of mining the British Phosphate Commissioners (BPC), as managing agents for the Christmas Island Phosphate Commission, have adopted a program of land reclamation and maintain a plant nursery for reafforestation.

Population

Some 3,184 people (2,252 males and 932 females) were resident on the island at 30 June 1980. There is no indigenous population and many of the 2,808 Asian residents were either born in the Territory or have arrived over the past thirty years. Under the provisions of the Christmas Island Act, many are Australian citizens.

Education

From January 1975, the Government implemented in the Territory a series of new education arrangements which based the education system on an Australian curriculum. A summary of the previous arrangements is given in Year Book No. 60, page 1088, and in earlier issues.

Under the new arrangements, the Christmas Island Area School provides pre-school, primary and secondary education. The Christmas Island Technical School conducts trades and commercial courses, and provides adult education classes and supervision of correspondence courses from the Western Australian Education Department's Technical Extension Service. At 30 June 1980, 575 children were enrolled at the Area School. At the end of 1980, the approved teaching staff establishments were 43 at the Area School and 7 at the Technical Education Centre.

History and administration

Summarised particulars of the history of Christmas Island up to its administration by the United Kingdom as a separate Crown Colony (from 1 January 1958, pending transfer to Australia) are given

in Year Book No. 51, page 141, and in earlier issues. On 1 October 1958 the island was transferred to Australia by the *Christmas Island Act* 1958 and an Official Representative was appointed to administer the Territory. In 1968 an Administrator was appointed, replacing the Official Representative and upgrading the level of Government representation. Responsibility for the administration and government of the Territory rests with the Minister for Home Affairs and Environment and the Administrator manages day to day affairs in the Territory under delegation from the Minister. The laws which were in force on the island at 30 September 1958 were continued as the laws of the Territory after its transfer to Australia. They may be amended or repealed by Ordinances or by laws made under Ordinances of the Territory.

Transport and communication

Transport to and from the Island is maintained by vessels operated under charter by the British Phosphate Commissioners as managing agents for the Christmas Island Phosphate Commission.

An air charter arranged by the Department of Home Affairs and Environment provides a fortnightly service to and from the island out of Perth via the Cocos Islands. The BPC operate a fortnightly air charter between Singapore or Kuala Lumpur and the Island, and ships which they own or charter run between the island and ports in Australia, New Zealand, Singapore and Malaysia.

The Territory has its own radio broadcasting station, police force, postal service and philatelic bureau. A radio-telephone and teleprinter service operates between the Island and the mainland, and links with Singapore and ships at sea.

CORAL SEA ISLANDS

The Coral Sea Islands Territory comprises scattered reefs and islands, often little more than sandbanks, spread over a sea area of 1,035,995 square kilometres with only a few square kilometres of land area. The territory lies between the Great Barrier Reef and longitude 157°10'E and between latitude 12° and 24°S. Some of the better known islands in the territory are Cato Island, Chilcott Islet in the Coringa Group and the islands of the Willis Group.

The islands, or cays, are formed largely of coral and sand and some have a cover of grassy or scrub-type vegetation. Large populations of sea birds nest and breed in the area.

History

About one hundred years ago guano workers camped on a number of the islands collecting manure deposited by the sea birds. But isolation, a lack of permanent fresh water and the limited size of the cays discouraged subsequent permanent occupation.

The Commonwealth Government based its claim to the Coral Sea Islands on numerous acts of sovereignty since early this century and asserted its sovereignty by enacting the *Coral Sea Islands Act* 1969 (which declared the Coral Sea Islands to be a Territory of Australia).

Installations

A lighthouse has been erected on Bougainville Reef and beacons operate on the Frederick and Lihou Reefs. A three-man meteorological station has provided a service on Willis Island since 1921 and there are eight automatic weather stations scattered throughout the Territory.

Most of the islands have been surveyed and the area is visited regularly both by Royal Australian Navy vessels and maintenance vessels of the Bureau of Meteorology.

Administration

By ordinance the laws of the Australian Capital Territory apply in the Coral Sea Islands Territory. The Minister for Home Affairs and Environment is responsible for matters affecting the Territory.

STATISTICAL SUMMARY: AUSTRALIA

In earlier issues of the Year Book, it was the practice to include in the Statistical Summary figures for every tenth year of the period 1861 to 1901, plus the latest year for which data were available. In each subsequent issue, the latest year available was substituted for the year immediately preceding it until the next tenth year had been reached, and the earliest year in the series was eliminated as space was needed. In consequence of this system, no single issue of the Year Book contained a continuous yearly series.

In this and recent issues of the Year Book, this defect has been remedied in part by the inclusion of a continuous series back to the year 1949 where possible, with earlier tenth years back to 1901. In issue No. 39, pages xxviii-xxix, some of the series are shown for every tenth year from 1861 to 1941. There are, however, discrepancies between the original series and the series now published.

Breaks in series, preliminary figures, etc., are indicated by the symbols shown on page xi of this Year Book.

DEMOGRAPHY

Year ended 31 December—	Population(a)			Natural increase	Over-seas migration(b)	Marriages		Divorces (c) and judicial separations	Births		Deaths		Infant deaths	
	Males	Females	Persons			No.	Rate(d)		No.	Rate(d)	No.	Rate(d)	No.	Rate(e)
	'000	'000	'000			'000	'000		'000	'000	'000	'000	'000	'000
1901	2,005	1,820	3,825	56.6	17.8	28	7.3	—	103	27.2	46	12.2	10.7	103.6
1911	2,382	2,192	4,574	74.3	77.7	39	8.8	1	122	27.2	48	10.7	8.4	68.5
1921	2,799	2,712	5,511	82.1	17.3	47	8.6	1	136	25.0	54	9.9	9.0	65.7
1931	3,333	3,220	6,553	61.9	-10.8	39	6.0	2	119	18.2	57	8.7	5.0	42.1
1941	3,599	3,545	7,144	(f)	5.2	75	10.6	3	135	18.9	(h)	(h)	5.3	39.7
1949	4,047	3,998	8,046	(f)	(g)	73	9.2	7	181	22.9	75	9.5	4.6	25.3
1950	4,191	4,116	8,307	112.4	152.5	76	9.2	7	191	23.3	78	9.6	4.7	24.5
1951	4,311	4,217	8,528	111.5	111.4	77	9.2	7	193	23.0	82	9.7	4.9	25.2
1952	4,426	4,314	8,740	120.1	94.0	74	8.6	7	202	23.4	82	9.5	4.8	23.8
1953	4,503	4,399	8,903	122.0	42.9	71	8.0	8	202	22.9	80	9.1	4.7	23.3
1954	4,598	4,492	9,090	120.5	68.2	71	7.9	7	202	22.5	82	9.1	4.5	22.5
1955	4,714	4,598	9,312	125.6	97.3	72	7.8	7	208	22.6	82	8.9	4.6	22.0
1956	4,829	4,702	9,531	126.0	94.0	72	7.6	6	212	22.5	86	9.1	4.6	21.7
1957	4,930	4,814	9,744	135.4	78.7	74	7.6	6	220	22.9	85	8.8	4.7	21.4
1958	5,026	4,921	9,947	138.8	65.4	74	7.5	7	223	22.6	84	8.5	4.6	20.5
1959	5,132	5,029	10,161	137.8	76.8	74	7.4	7	227	22.6	89	8.9	4.9	21.5
1960	5,253	5,139	10,392	141.9	90.1	75	7.3	7	230	22.4	88	8.6	4.6	20.2
1961	(i)	(i)	(i)	(i)					(i)	(i)	(i)	(i)	(i)	(i)
1961	5,374	5,268	10,643	151.8	61.5	77	7.3	7	240	22.8	89	8.5	4.7	19.5
1962	5,740	5,376	10,846	144.4	62.5	79	7.4	7	237	22.2	93	8.7	4.8	20.4
1963	5,572	5,484	11,055	141.3	71.6	81	7.4	8	236	21.6	95	8.7	4.6	19.5
1964	5,683	5,597	11,280	129.1	99.3	86	7.7	8	229	20.6	101	9.0	4.4	19.1
1965	5,794	5,712	11,505	123.7	104.9	94	8.2	9	223	19.6	100	8.8	4.1	18.5
1966	5,891	5,814	11,705	119.2	86.9	96	8.3	10	224	19.3	105	9.0	4.2	18.7
1967	5,992	5,920	11,912	126.6	91.9	100	8.5	10	229	19.4	103	8.7	4.2	18.3
1968	6,108	6,037	12,146	131.4	113.1	106	8.8	11	241	20.0	110	9.1	4.3	17.8
1969	6,238	6,169	12,407	143.7	129.0	112	9.2	11	250	20.4	106	8.7	4.5	17.9
1970	6,365	6,299	12,663	144.5	122.9	116	9.3	12	258	20.6	113	9.0	4.6	17.9
1971	6,572.0	6,498.1	13,070.0	165.7	103.6	118	9.1	13	276	21.4	111	8.6	4.8	17.3
1972	6,676.7	6,607.2	13,283.9	155.2	56.3	114	8.7	16	265	20.1	110	8.3	4.4	16.7
1973	6,777.7	6,712.8	13,490.6	136.8	67.5	113	8.4	16	248	18.5	111	8.3	4.1	16.5
1974	6,885.3	6,824.2	13,709.5	129.3	87.2	111	8.1	18	245	18.0	116	8.5	4.0	16.1
1975	6,948.0	6,901.3	13,849.3	124.0	13.5	104	7.6	24	233	16.9	109	7.9	3.3	14.3
1976	7,014.3	6,976.9	13,991.2	115.1	25.6	110	7.9	63	228	16.4	113	8.1	3.2	13.8
1977	7,097.7	7,065.8	14,163.5	117.5	54.8	105	7.5	45	226	16.1	109	7.7	2.8	12.5
1978	7,178.8	7,152.1	14,330.9	115.8	51.6	103	7.2	41	224	15.7	108	7.6	2.7	12.2
1979	p7,269.3	p7,247.2	p14,516.5	116.6	69.0	104	7.2	p38	223	15.5	107	7.4	2.5	11.4

Figures for 1971 and later years are based on Census results adjusted for underenumeration.

(a) At 31 December. (b) Excess of arrivals over departures. Minus sign (-) indicates excess of departures over arrivals. From 1 July 1971 net migration has been defined as the excess of overseas arrivals over overseas departures, classified as permanent and long-term (long-term includes visits to or absences from Australia lasting one year or longer). (c) Decrees made absolute, including decrees for nullity of marriage. (d) Number per 1,000 of mean population. (e) Number per 1,000 live births. (f) Excess of births over civilian deaths from September 1939 to June 1947. (g) Excludes movements of defence personnel from September 1939 to June 1947. (h) Excludes deaths of defence personnel from September 1939 to June 1947. (i) Includes Aborigines.

INDUSTRIES
AGRICULTURE

Season	Wheat for grain			Oats for grain			Barley for grain			Maize		
	Area	Pro- duction	Average yield	Area	Pro- duction	Average yield	Area	Pro- duction	Average yield	Area	Pro- duction	Average yield
	hectares mil tonnes	tonnes	tonnes	'000 hectares mil tonnes	tonnes	tonnes	'000 hectares mil tonnes	tonnes	tonnes	'000 hectares mil tonnes	tonnes	tonnes
1901-02	2.07	1.05	0.51	187	0.18	0.95	30	0.03	1.14	119	0.18	1.50
1911-12	3.01	1.95	0.65	250	0.17	0.70	47	0.05	0.99	138	0.23	1.65
1921-22	3.93	3.51	0.89	297	0.22	0.74	121	0.14	1.14	124	0.20	1.61
1931-32	5.97	5.18	0.87	439	0.28	0.63	139	0.14	1.03	109	0.18	1.65
1941-42	4.86	4.53	0.93	591	0.40	0.68	317	0.41	1.29	122	0.19	1.55
1950-51	4.72	5.00	1.06	711	0.46	0.64	437	0.52	1.19	69	0.12	1.75
1951-52	4.20	4.34	1.03	957	0.63	0.65	452	0.50	1.10	69	0.10	1.49
1952-53	4.13	5.30	1.28	1,119	0.79	0.71	557	0.79	1.43	70	0.13	1.79
1953-54	4.35	5.38	1.24	865	0.60	0.69	730	0.94	1.28	72	0.13	1.78
1954-55	4.32	4.58	1.06	1,042	0.60	0.57	684	0.67	0.97	69	0.13	1.88
1955-56	4.11	5.31	1.29	1,357	1.02	0.76	766	0.94	1.23	68	0.12	1.78
1956-57	3.19	3.65	1.15	1,034	0.64	0.62	847	1.12	1.32	73	0.14	1.90
1957-58	3.58	2.65	0.74	1,197	0.57	0.48	858	0.69	0.81	74	0.14	1.92
1958-59	4.21	5.84	1.39	1,608	1.58	0.98	963	1.43	1.48	73	0.17	2.35
1959-60	4.93	5.39	1.09	1,226	0.85	0.69	963	0.78	0.81	75	0.17	2.28
1960-61	5.44	7.43	1.37	1,472	1.38	0.94	1,145	1.54	1.35	75	0.16	2.12
1961-62	5.96	6.71	1.13	1,253	1.00	0.80	965	0.94	0.98	85	0.19	2.18
1962-63	6.66	8.34	1.25	1,332	1.25	0.94	820	0.90	1.09	85	0.19	2.23
1963-64	6.67	8.91	1.34	1,373	1.24	0.90	815	0.98	1.21	87	0.17	1.96
1964-65	7.25	10.02	1.38	1,415	1.27	0.90	835	1.12	1.34	86	0.17	2.03
1965-66	7.09	7.05	1.00	1,525	1.10	0.72	930	0.95	1.02	80	0.12	1.57
1966-67	8.43	12.67	1.50	1,723	1.94	1.13	1,011	1.40	1.38	82	0.19	2.33
1967-68	9.08	7.55	0.83	1,368	0.72	0.53	1,057	0.83	0.79	81	0.18	2.23
1968-69	10.85	14.80	1.37	1,567	1.71	1.09	1,341	1.65	1.23	67	0.15	2.24
1969-70	9.49	10.55	1.11	1,374	1.25	0.91	1,521	1.70	1.12	80	0.19	2.41
1970-71	6.48	7.89	1.22	1,484	1.61	1.09	2,000	2.35	1.18	85	0.21	2.48
1971-72	7.14	8.61	1.21	1,237	1.28	1.03	2,532	3.66	1.21	78	0.21	2.74
1972-73	7.60	6.59	0.87	995	0.74	0.74	2,140	1.73	0.81	59	0.14	2.34
1973-74	8.95	11.99	1.34	1,182	1.11	0.94	1,894	2.40	1.27	46	0.11	2.32
1974-75	8.31	11.36	1.37	897	0.87	0.97	1,826	2.52	1.38	51	0.13	2.59
1975-76	8.56	11.98	1.40	988	1.14	1.15	2,329	3.18	1.36	47	0.13	2.81
1976-77	8.96	11.80	1.32	995	1.07	1.08	2,321	2.85	1.23	53	0.14	2.72
1977-78	9.95	9.37	0.94	1,076	0.99	0.92	2,803	2.38	0.85	45	0.13	2.87
1978-79	10.25	18.09	1.77	1,359	1.76	1.30	2,785	4.01	1.44	50	0.17	3.38
1979-80	11.16	15.97	1.43	1,128	1.42	1.26	2,486	3.72	1.50	56	n.y.a.	n.y.a.

AGRICULTURE—continued

Season	Hay			Potatoes			Sugar-cane(a)			Vineyards		All crops
	Area	Pro- duction	Average yield	Area	Pro- duction	Average yield	Area	Pro- duction	Average yield	Area	Wine made	Area
	'000 hectares	'000 tonnes	tonnes	'000 hectares	'000 tonnes	tonnes	'000 hectares	'000 tonnes	tonnes	'000 hectares	mil. litres	mil. hectares
1901-02	683	2,057	3.01	44	328	7.4	35	1,390	39.5	26	24	3.4
1911-12	1,019	2,914	2.86	53	306	5.8	41	1,709	41.8	25	23	4.9
1921-22	1,212	3,965	3.27	60	394	6.5	52	2,476	47.7	37	39	6.2
1931-32	1,066	3,218	3.02	59	403	6.9	98	4,281	43.8	46	65	8.6
1941-42	1,116	3,632	3.25	40	338	8.4	103	5,236	50.8	53	71	(b)8.3
1950-51	557	2,096	3.76	51	418	8.1	110	7,165	65.1	55	118	(b)8.1
1951-52	627	2,382	3.80	48	517	10.8	114	5,412	47.5	55	160	(b)8.1
1952-53	713	2,809	3.94	55	438	8.0	113	7,079	62.5	55	136	(b)8.4
1953-54	783	3,098	3.96	52	557	10.7	138	9,159	66.5	56	144	(b)8.7
1954-55	803	2,902	3.61	43	476	10.9	151	10,248	67.7	55	109	9.0
1955-56	907	3,683	4.06	38	408	10.8	151	9,044	59.9	55	104	9.3
1956-57	753	3,092	4.10	41	527	12.9	150	9,421	62.9	53	140	8.1
1957-58	905	3,016	3.33	48	585	12.2	152	9,397	61.8	53	154	9.0
1958-59	1,221	5,171	4.23	42	584	13.8	150	10,377	69.4	53	148	10.4
1959-60	852	3,227	3.79	44	589	13.4	127	9,147	72.0	53	129	10.6
1960-61	1,203	5,160	4.29	37	458	12.3	138	9,313	67.5	53	153	12.0
1961-62	920	3,752	4.08	38	534	14.0	157	9,730	62.1	54	190	12.0
1962-63	1,101	4,793	4.35	46	677	14.7	163	12,940	79.6	54	136	13.0
1963-64	1,053	4,338	4.12	41	571	13.8	169	12,313	72.9	55	172	13.0
1964-65	1,130	5,043	4.46	36	516	14.5	190	15,312	80.4	56	177	14.0
1965-66	1,125	4,246	3.77	39	649	16.7	204	14,382	70.6	57	156	14.0
1966-67	1,415	6,473	4.58	40	653	16.3	226	16,953	75.1	56	190	16.0
1967-68	502	1,246	2.48	43	669	15.6	224	17,025	76.1	57	202	14.6
1968-69	428	1,728	4.04	46	811	17.7	230	18,708	81.3	58	236	16.7
1969-70	428	1,514	3.54	43	762	17.6	213	15,784	74.2	61	288	15.7
1970-71	348	1,298	3.73	39	774	20.1	221	17,645	80.0	64	250	13.4
1971-72	340	1,246	3.66	40	822	20.3	234	19,391	83.0	67	289	14.2
1972-73	453	1,224	2.70	37	721	19.7	242	18,928	78.3	69	266	14.3
1973-74	325	1,034	3.18	34	649	19.0	226	19,278	85.4	70	295	15.1
1974-75	216	669	3.10	38	742	19.7	253	20,418	80.7	71	361	13.8
1975-76	230	738	3.21	33	696	20.9	257	21,959	85.5	70	356	14.5
1976-77	287	891	3.10	34	728	21.5	288	23,344	81.0	71	383	15.0
1977-78	313	795	2.54	36	772	21.4	295	23,493	79.6	71	340	16.8
1978-79	293	955	3.26	35	795	23.0	252	21,457	85.2	71	335	17.4
1979-80	268	n.y.a.	n.y.a.	38	n.y.a.	n.y.a.	267	21,149	79.2	71	414	17.9

(a) Cane cut for crushing.

(b) Excludes Northern Territory.

INDUSTRIES—continued
PASTORAL, DAIRYING, ETC.

Year ended 30 June—	Livestock(a)			Meat(d)							Total meat
	Cattle	Sheep	Pigs	Wool (b)(c)	Butter	Cheese	Beef and veal	Mutton and lamb	Pigmeat		
	mil.	mil.	mil.	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	
1902	8.5	72	0.9	245	(e)46	(e)5.3	n.a.	n.a.	n.a.	n.a.	
1912	11.8	97	1.1	362	(e)96	(e)7.2	n.a.	n.a.	n.a.	n.a.	
1922	14.4	86	1.0	328	(e)121	(e)14.8	345	222	51	618	
1932	12.3	111	1.2	457	177	14.3	355	312	72	739	
1942	13.6	125	1.4	529	170	30.6	542	378	124	1,043	
1950	14.6	113	1.1	518	176	45.5	616	364	92	1,072	
1951	15.2	116	1.1	507	167	45.0	662	279	87	1,027	
1952	14.9	118	1.0	490	137	41.3	591	287	86	964	
1953	15.2	123	1.0	581	170	47.4	686	401	84	1,171	
1954	15.6	127	1.2	565	162	49.8	716	371	85	1,171	
1955	15.8	131	1.3	582	194	45.9	731	394	101	1,227	
1956	16.5	139	1.2	643	212	39.3	763	386	95	1,245	
1957	17.3	150	1.3	710	196	45.9	828	373	90	1,290	
1958	16.9	149	1.4	650	179	36.6	804	428	103	1,336	
1959	16.3	153	1.3	722	197	44.5	921	500	104	1,525	
1960	16.5	155	1.4	762	201	45.7	764	583	102	1,449	
1961	17.3	153	1.6	737	185	47.9	643	584	109	1,336	
1962	18.0	158	1.7	770	202	56.6	804	596	122	1,522	
1963	18.5	159	1.4	759	206	59.6	929	603	116	1,648	
1964	19.1	165	1.5	810	207	59.2	1,001	595	113	1,710	
1965	18.8	171	1.7	809	206	62.6	1,026	594	122	1,743	
1966	17.9	158	1.7	754	209	59.6	946	608	135	1,690	
1967	18.3	164	1.8	799	222	69.8	879	596	142	1,617	
1968	19.2	167	2.1	803	196	70.5	904	665	150	1,718	
1969	20.6	175	2.3	883	198	74.8	935	680	162	1,777	
1970	22.2	180	2.4	926	223	76.3	1,010	755	174	1,940	
1971	24.4	178	2.6	890	203	77.6	1,047	825	182	2,054	
1972	27.4	163	3.2	882	195	80.9	1,168	956	194	2,319	
1973	29.1	140	3.3	735	185	93.4	1,438	713	236	2,388	
1974	30.8	145	2.5	701	175	95.8	1,322	467	211	2,000	
1975	32.8	152	2.2	793	(f)161	(f)98.6	1,547	528	175	2,249	
1976	33.4	149	2.2	754	148	112.6	1,840	588	174	2,602	
1977	31.5	135	2.2	703	118	103.5	1,988	549	185	2,722	
1978	29.3	131	2.2	677	112	115.7	2,184	514	199	2,897	
1979	27.1	134	2.3	706	105	141.8	2,018	491	199	2,708	
1980	26.3	136	2.5	720	84	154.2	1,557	539	216	2,313	

(a) At 31 December of previous year for years to 1942, at 31 March thereafter. (b) In terms of greasy. (c) 1901–02 and 1911–12 year ended previous December; then until 1946–47 year ended March; 1947–48 onwards, year ended June. (d) Carcass weight in terms of fresh meat. (e) Year ended previous December. (f) From 1974–75 excludes the production of certain small producers.

INDUSTRIES—continued

MINERALS									FORESTRY	
Year ended 31 December—	Copper (a)	Gold (a)	Lead (a)	Zinc (a)	Iron ore	Black coal	Brown coal	Crude oil	Year ended 30 June—	Sawn output of Aust. grown timber
	'000 tonnes	'000 grams	'000 tonnes	'000 tonnes	mil. tonnes	mil. tonnes	mil. tonnes	'000 cu m		'000 cu m
1901	29.9	102,642	n.a.	(b)	n.a.	7.0	..	..	1902	(c) 1,067
1911	46.1	77,263	225.3	241.9	(b)	10.7	..	..	1912	(c) 1,428
1921	11.2	23,577	82.3	141.7	0.7	13.1	..	..	1922	1,392
1931	13.9	18,510	150.8	75.4	(b)	10.8	..	..	1932	559
1941	22.7	46,553	295.7	251.2	2.5	19.1	..	..	1942	2,157
1950	17.9	27,046	229.0	201.0	2.4	24.3	..	..	1951	2,976
1951	18.4	27,855	215.4	192.3	2.5	25.9	..	..	1952	3,287
1952	19.2	30,495	232.0	199.6	2.9	27.9	..	..	1953	3,162
1953	38.1	33,442	273.7	243.2	3.3	27.1	..	..	1954	3,304
1954	42.6	34,766	289.4	256.7	3.6	29.6	..	..	1955	3,419
1955	48.1	32,629	300.7	260.7	3.6	29.9	..	..	1956	3,424
1956	55.4	32,031	304.3	282.5	4.0	30.3	..	..	1957	3,348
1957	60.2	33,714	339.1	324.0	3.9	31.2	..	..	1958	3,282
1958	76.9	34,338	333.6	298.4	4.0	32.6	..	..	1959	3,445
1959	96.5	33,751	321.4	279.8	4.2	33.9	..	..	1960	3,589
1960	111.2	33,800	313.1	322.6	4.4	38.1	..	..	1961	3,346
1961	97.2	33,476	274.0	316.2	5.4	40.9	..	..	1962	3,190
1962	108.7	33,245	376.0	342.9	4.9	42.3	..	..	1963	3,341
1963	114.8	31,849	416.9	357.1	5.6	44.0	..	..	1964	3,509
1964	105.7	29,979	380.9	350.1	5.8	47.2	198	196	1965	3,615
1965	91.8	27,298	367.9	354.8	6.8	52.9	417	196	1966	3,558
1966	111.3	28,521	370.8	375.3	11.1	56.0	539	196	1967	3,448
1967	91.8	25,049	381.8	407.0	17.3	59.0	1,208	196	1968	3,476
1968	109.6	24,316	388.8	422.4	26.6	64.2	2,206	196	1969	(d) 3,325
1969(e)	125.3	22,711	417.7	463.2	32.5	43.3	23.1	2,237	1970	(d) 3,386
1970(e)	142.3	20,605	459.4	520.8	45.1	48.5	23.9	4,871	1971	3,438
1971(e)	173.0	19,103	416.4	444.1	57.1	49.7	22.8	14,937	1972	3,367
1972(e)	171.9	23,253	420.8	497.5	62.1	53.5	23.3	19,038	1973	3,408
1973(e)	198.7	20,002	385.0	507.0	74.6	59.8	24.1	20,669	1974	3,336
1974(e)	246.7	16,271	370.4	441.3	91.5	59.3	26.3	23,096	1975	3,230
1975(e)	235.6	15,153	416.5	508.2	98.2	70.1	27.3	23,096	1976	3,228
1976(e)	218.3	16,901	396.7	479.3	92.7	69.3	29.2	23,839	1977	3,164
1977(e)	217.2	15,666	418.2	475.3	94.8	76.0	31.0	24,549	1978	3,056
1978(e)	217.1	21,047	418.8	484.4	89.9	79.3	30.5	24,941	1979	3,104
1979(e)	238.7	19,584	423.5	498.5	84.6	81.2	32.1	25,109	1980p	3,148

(a) Metallic content of minerals produced. (b) Less than 0.05. (c) Year ended previous December. (d) Excludes estimated quantity of timber from logs peeled or sliced for veneers. (e) Year ended 30 June.

INDUSTRIES—continued
 FACTORIES (a)

Year ended 30 June—	Net value of production(d)									
	Number	Persons employed (b)	Salaries and wages paid(c)	Chemicals, etc.	Industrial metals, etc.	Textiles, etc.	Clothing	Food, etc.	Paper, etc.	All groups
		'000	'000	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1902(e)	(f)	(f)	(f)	(f)	n.a.	n.a.	n.a.	n.a.	n.a.	\$8.2
1912(e)	14.5	312	55	2.2	24.1	15.0	23.6	8.5	108.3	108.3
1922	18.0	379	136	6.4	47.2	38.4	54.4	18.0	225.0	225.0
1932	21.7	337	112	15.8	45.6	13.8	22.2	57.4	19.2	222.0
1942	27.0	725	360	59.6	239.8	42.0	47.2	106.4	34.2	633.0
1950	41.6	917	772	81.3	492.5	85.9	115.4	202.0	86.0	1,323.1
1951	43.1	969	983	105.4	654.0	109.2	143.5	236.6	109.5	1,687.7
1952	45.8	978	1,224	127.4	826.2	113.2	162.2	282.2	136.4	2,049.7
1953	47.7	933	1,270	135.7	842.6	129.7	165.6	328.7	136.6	2,165.7
1954	49.6	990	1,410	164.6	936.6	157.1	187.1	355.8	158.6	2,454.1
1955	51.1	1,031	1,563	196.3	1,065.9	156.8	196.8	373.1	181.1	2,731.0
1956	52.4	1,060	1,707	238.3	1,193.9	163.6	204.9	395.6	198.1	3,001.4
1957	53.2	1,063	1,782	273.8	1,281.7	182.9	211.0	428.9	217.4	3,244.2
1958	54.0	1,074	1,859	291.3	1,389.0	183.0	216.1	449.9	241.4	3,457.4
1959	54.9	1,088	1,941	322.4	1,471.6	191.3	221.5	469.1	263.4	3,685.2
1960	56.7	1,132	2,173	360.3	1,700.4	216.7	237.7	520.1	298.2	4,161.1
1961	57.8	1,145	2,289	366.1	1,795.9	213.6	247.2	542.5	318.6	4,349.8
1962	58.5	1,121	2,287	364.3	1,770.3	211.2	252.4	495.5	326.9	4,394.6
1963	59.1	1,168	2,447	411.4	1,954.7	233.8	266.3	636.9	350.9	4,795.2
1964	59.4	1,210	2,652	449.5	2,174.0	252.5	281.4	700.5	379.7	5,270.0
1965	61.0	1,269	2,994	504.8	2,486.1	279.6	302.3	757.1	426.9	5,896.8
1966	61.7	1,294	3,163	542.7	2,647.8	282.8	319.0	818.3	459.5	6,251.9
1967	62.5	1,309	3,408	627.6	2,912.9	303.1	341.5	892.3	503.3	6,877.0
1968	63.0	1,331	3,666	687.0	3,163.6	315.0	360.1	937.5	549.0	7,430.9
1969(g)	35.9	1,264	3,908	633.0	3,201.6	301.0	409.2	1,184.4	620.7	7,475.5
1970	35.7	1,297	4,329	681.8	3,551.9	310.3	452.1	1,321.9	701.8	8,261.7
1971			No manufacturing census was conducted in respect of this year.							
1972	36.1	1,303	5,257	804.1	4,052.0	333.7	521.5	1,683.9	818.1	9,703.2
1973	36.4	1,298	5,820	885.5	4,337.7	376.8	563.9	1,943.5	915.4	10,746.0
1974	37.1	1,338	7,177	1,076.2	5,529.4	481.1	676.1	2,126.0	1,110.5	13,149.2
1975(h)	27.0	1,245	8,531	1,172.2	6,635.8	409.2	696.8	2,650.5	1,279.4	15,246.4
1976(h)	27.5	1,200	9,472	1,261.7	7,084.9	542.3	841.7	3,074.1	1,391.4	16,921.0
1977(h)	26.8	1,176	10,536	1,464.6	8,088.5	563.1	894.2	3,501.8	1,614.2	19,234.3
1978(h)	26.1	1,144	11,136	1,697.4	8,229.2	581.4	967.7	3,767.4	1,763.0	20,247.5
1979(h)	26.3	1,144	11,966	1,898.8	9,180.2	641.5	1,049.4	4,035.5	1,960.8	22,230.1

(a) Excludes Northern Territory and Australian Capital Territory before 1 July 1964. (b) Average over whole year, includes working proprietors. (c) Excludes amounts drawn by working proprietors. (d) Value added in process of manufacture (i.e. value of output less value of materials and fuel used). (e) Year ended previous December. (f) Owing to variation in classification, effective comparison is not possible. (g) Direct comparison with figures for previous years are not possible (for details, see page 412). (h) All manufacturing establishments owned by multi-establishment enterprises and single establishment manufacturing enterprises with four or more persons employed.

GROSS VALUE OF PRODUCTION OF PRIMARY INDUSTRIES

Year ended 30 June—	Crop production	Pastoral	Dairying	Poultry	Bee- farming	Total agri- culture	Hunting	Forestry	Fishing	Total primary excluding mining
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1902	47.6	54.4	15.2	4.0	0.2	121.4	n.a.	(a) 5.6	(b)	127.0
1912	77.6	105.4	32.2	8.0	0.2	223.4	n.a.	9.6	2.2	235.2
1922	163.8	150.2	70.6	18.0	0.2	402.8	n.a.	18.2	2.8	423.8
1932	149.0	123.1	66.1	17.1	0.2	355.5	3.2	15.4	3.3	377.4
1942	201.0	198.7	91.1	24.8	0.9	516.4	10.8	23.3	4.2	554.7
1950	563.5	744.3	202.2	67.0	1.7	1,578.6	12.8	50.7	9.8	1,651.9
1951	557.0	1,510.5	221.0	74.9	1.9	2,365.3	14.4	62.2	11.3	2,453.2
1952	664.3	899.6	260.6	97.0	1.7	1,923.3	14.8	82.7	13.3	2,034.1
1953	765.9	1,115.0	337.7	109.7	2.4	2,330.8	12.6	86.6	15.8	2,445.8
1954	743.9	1,115.3	347.1	109.9	3.2	2,319.4	11.5	94.7	17.7	2,443.3
1955	679.3	1,058.7	363.9	103.0	3.2	2,208.0	11.2	99.1	19.5	2,337.8
1956	769.9	1,036.2	395.7	107.6	3.9	2,313.2	13.4	110.0	19.6	2,436.2
1957	704.3	1,356.1	376.8	110.0	5.1	2,552.3	13.4	115.2	23.1	2,704.0
1958	681.7	1,089.8	370.7	110.9	3.8	2,256.9	13.7	114.1	22.8	2,407.5
1959	919.9	1,076.1	400.7	109.6	3.8	2,509.9	14.3	116.4	24.5	2,665.1
1960	820.7	1,275.2	425.4	119.7	5.1	2,646.1	15.4	108.1	27.2	2,796.8
1961	1,071.4	1,130.6	409.5	130.2	3.8	2,745.4	14.8	108.4	28.5	2,897.1
1962	1,008.3	1,187.3	412.5	121.7	4.0	2,733.9	13.3	100.1	31.7	2,879.0
1963	1,136.6	1,287.1	439.4	123.6	3.5	2,990.2	12.8	101.6	34.1	3,138.7
1964	1,228.4	1,562.7	463.5	138.2	6.0	3,398.9	15.0	108.0	35.4	3,557.3
1965	1,320.0	1,454.5	505.3	137.4	5.1	3,422.3	14.6	116.3	42.4	3,595.6
1966	1,181.3	1,467.8	508.0	154.6	4.3	3,316.0	15.6	120.3	45.8	3,497.7
1967	1,639.3	1,486.1	523.8	171.6	4.0	3,824.7	13.5	117.7	48.8	4,004.7
1968	1,268.8	1,395.2	504.1	169.3	4.6	3,342.1	12.1	118.8	58.5	3,531.5
1969	1,717.3	1,536.8	513.7	176.2	3.0	3,947.0	12.1	119.5	63.0	4,141.6

(a) Includes Fishing. (b) Included in Forestry.

The classification categories 'Pastoral', 'Dairying', 'Poultry' and 'Bee-farming' employed in the previous table have been replaced by a more appropriate commodity classification. Direct comparison with figures for previous years is not possible.

GROSS VALUE OF PRODUCTION OF PRIMARY INDUSTRIES

Year ended 30 June—	Crops		Livestock slaughtering and other disposals(a)		Livestock products		Total agriculture		Forestry		Fishing		Hunting	
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1970	1,453.8	1,007.7	1,268.6	3,730.1	125.0	63.3	12.5							
1971	1,490.8	1,009.9	1,079.0	3,579.7	137.2	77.2	10.2							
1972	1,597.6	1,134.4	1,235.6	3,967.7	151.2	92.1	10.2							
1973	1,582.4	1,542.2	1,832.5	4,957.1	170.6	100.7	12.1							
1974	2,858.7	1,696.0	1,857.0	6,411.7	193.3	109.3	12.5							
1975	3,203.8	1,019.2	1,652.8	5,875.8	212.6	107.7	13.8							
1976	3,247.5	1,246.4	1,679.5	6,173.4	227.1	146.6	18.0							
1977	3,188.8	1,685.7	1,884.8	6,759.4	251.7	206.3	23.5							
1978	3,058.2	1,966.5	1,970.6	6,995.3	263.4	233.4	27.1							
1979	4,934.2	3,081.6	2,225.2	10,240.9	276.8	279.7	38.1							
1980p	5,151.6	3,522.9	2,508.2	11,182.6	n.y.a.	n.y.a.	n.y.a.							

(a) Includes adjustment for net exports (overseas and interstate) of live animals.

INDUSTRIES, WAGES AND PRICES

GROSS VALUE OF PRODUCTION

BUILDING

WAGES AND PRICES

Year ended 30 June—	Mining and quarrying	Manu- facturing	New dwellings completed(a)		Value of work done on all buildings(b)	Year ended 31 December—	Weekly wage rates index adult males(c)	Retail price index numbers six State capital cities combined(d)
			Number	Value				
			\$m	\$m				
1902	44.0	(e)58.2	n.a.	n.a.	n.a.	1901	n.a.	88
1912	46.6	(e) 108.3	n.a.	n.a.	n.a.	1911	n.a.	100
1922	40.0	225.0	n.a.	n.a.	n.a.	1921	n.a.	(h)168
1932	27.0	220.0	n.a.	n.a.	n.a.	1931	n.a.	145
1942	66.8	633.0	n.a.	n.a.	n.a.	1941	38.5	167
1950	104.7	1,323.1	57.0	184.7	n.a.	1950	71.5	262
1951	142.3	1,687.7	69.3	255.6	n.a.	1951	85.8	313
1952	194.4	2,049.7	80.1	354.1	n.a.	1952	96.7	367
1953	219.3	2,165.7	80.2	394.5	n.a.	1953	99.2	383
1954	209.8	2,454.1	77.6	398.2	n.a.	1954	101.6	386
1955	236.2	2,731.0	82.1	444.2	n.a.	1955	105.2	394
1956	265.0	3,001.4	78.5	452.5	n.a.	1956	110.8	419
1957	280.0	3,244.2	68.4	419.5	n.a.	1957	112.4	429
1958	253.6	3,457.4	74.6	463.0	811.6	1958	114.3	435
1959	236.7	3,685.2	84.2	527.3	864.9	1959	122.0	443
1960	252.3	4,161.1	90.0	571.0	1,001.6	1960	125.7	459
1961	278.1	4,349.8	94.5	627.4	1,130.8	1961	129.5	471
1962	274.5	4,394.6	86.3	593.2	1,076.9	1962	129.8	469
1963	291.0	4,795.2	87.7	610.2	1,140.7	1963	133.0	472
1964	327.7	5,270.0	96.7	685.8	1,323.9	1964	140.4	483
1965	400.1	5,896.8	112.7	823.0	1,555.9	1965	144.3	502
1966	443.9	6,251.9	112.8	869.9	1,681.2	1966	152.4	517
1967	515.5	6,877.0	111.9	914.8	1,745.4	1967	159.3	534
1968	568.1	7,430.9	120.2	1,022.8	1,914.3	1968	173.4	548
1969	(f)749.2	(f)7,468.5	130.7	1,182.1	2,195.4	1969	183.6	564
1970	(f)1,042.6	(f)8,277.8	142.2	1,379.4	2,556.7	1970	191.9	586
1971	(f)1,289.5	(g)n.a.	142.1	1,478.9	2,815.6	1971	218.0	621
1972	(f)1,428.3	(f)9,696.6	143.8	1,628.7	3,132.4	1972	239.8	658
1973	(f)1,597.3	(f)10,725.9	150.6	1,845.5	3,542.4	1973	275.1	720
1974	(f)1,996.1	(f)13,149.1	150.0	2,143.0	4,214.9	1974	373.8	829
1975	(f)2,669.1	(f)15,231.6	141.1	2,454.2	4,713.3	1975	417.6	954
1976	(f)3,049.7	(f)16,921.0	132.0	2,808.6	5,395.0	1976	479.0	1,083
1977	(f)3,548.2	(f)19,234.3	144.8	3,635.1	6,445.5	1977	527.9	1,216
1978	(f)3,905.0	(f)20,236.3	128.9	3,595.6	6,509.9	1978	569.9	1,313
1979	(f)4,445.1	(f)22,230.1	117.1	3,529.7	6,937.6	1979	596.7	1,432
1980	n.v.a.	..	129.3	4,174.8	7,598.1			

(a) Series commenced 1945-46. Partly estimated before July 1951, and excludes Northern Territory before July 1954. (b) Building by private contractors, government authorities and owner builders. (c) At 31 December, Base; year 1954=100, weighted average. Excludes rural industry. (d) Base; year 1911=100. The index numbers are presented as a continuous series, but they give only a broad indication of long-term trends in retail price levels. They are derived by linking a number of indexes that differ greatly in scope. The successive indexes used are; from 1901 to 1914, the 'A' Series Retail Price Index; from 1914 to 1946-47, the 'C' Series Retail Price Index; from 1946-47 to 1948-49, a composite of Consumer Price Index Housing Group (partly estimated) and 'C' Series Index excluding Rent; and from 1948-49 onwards, the Consumer Price Index. (e) Year ended previous December. (f) Value added from 1968-69. (g) Manufacturing census was not conducted. (h) November.

OVERSEAS TRADE

	TOTALS				PRINCIPAL EXPORTS(a)			
Year ended 30 June—	Imports	Exports	Coal(b)	Wool(c)	Barley	Wheat	Petroleum products	Flour(d)
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1902(i)	76	100	n.a.	30	n.a.	6	n.a.	n.a.
1912(i)	122	158	2	52	—	13	—	—
1922	188	256	2	96	1	57	—	11
1932	104	216	1	74	3	38	—	8
1942	348	338	1	112	—	9	—	—
1951	1,488	1,964	—	1,253	18	148	—	66
1952	2,107	1,350	1	636	22	111	—	66
1953	1,028	1,743	2	788	38	104	—	75
1954	1,363	1,657	3	805	30	62	1	60
1955	1,687	1,548	2	693	21	90	2	41
1956	1,642	1,564	2	653	21	93	6	39
1957	1,438	1,986	4	930	25	120	6	43
1958	1,584	1,636	7	720	19	57	11	29
1959	1,593	1,623	5	578	34	77	15	26
1960	1,854	1,875	9	742	23	123	21	30
1961	2,175	1,938	15	649	29	205	24	38
1962	1,769	2,155	27	720	30	285	25	35
1963	2,163	2,152	22	733	10	217	29	31
1964	2,373	2,782	32	926	18	362	20	42
1965	2,905	2,651	51	781	18	297	11	37
1966	2,939	2,721	63	757	12	264	9	25
1967	3,045	3,024	72	840	22	361	30	23
1968	3,264	3,045	85	739	7	343	33	24
1969	3,469	3,374	117	827	18	258	26	22
1970	3,881	4,137	164	803	23	338	27	21
1971	4,150	4,376	195	593	51	433	38	20
1972	4,008	4,893	238	633	73	419	45	13
1973	4,121	6,214	291	1,262	39	273	41	12
1974	6,085	6,914	348	1,248	68	517	95	20
1975	8,083	8,673	721	815	187	1,028	145	49
1976	8,240	9,601	1,063	1,032	201	922	144	39
1977	10,411	11,646	1,282	1,587	223	863	190	26
1978	11,167	12,270	1,482	1,289	122	1,011	223	21
1979	13,752	14,243	1,524	1,592	148	794	295	14
1980p	16,216	18,887	1,677	1,744	354	2,178	389	12

PRINCIPAL EXPORTS(a)—continued

Year ended 30 June—	Butter(e)	Hides and skins	Meats(f)	Fruit(g)	Sugar	Lead and lead alloys unworked (h)	Ores and concentrates	
							Iron	Other
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1902(i)	3	3	5	—	—	n.a.	—	—
1912(i)	9	6	9	1	—	3	—	8
1922	16	6	11	6	—	4	—	1
1932	21	5	13	10	5	5	—	—
1942	16	12	28	11	5	14	—	2
1951	38	54	61	38	30	43	—	21
1952	10	34	71	44	14	52	—	40
1953	41	40	132	61	43	50	—	39
1954	33	39	114	68	63	46	—	26
1955	50	39	127	68	62	47	—	28
1956	59	42	119	67	49	49	—	38
1957	53	49	100	53	58	63	—	51
1958	32	51	111	72	70	43	—	42
1959	51	47	194	73	64	38	—	33
1960	58	64	177	64	53	33	—	44
1961	41	54	145	61	70	33	—	54
1962	49	64	179	74	68	38	—	48
1963	49	74	226	73	91	35	—	44
1964	57	92	244	92	157	50	—	54
1965	67	80	286	86	113	61	1	77
1966	58	89	228	107	94	67	3	88
1967	65	86	286	95	100	54	46	100
1968	47	62	285	105	98	63	103	123
1969	41	75	291	92	122	66	180	143
1970	53	88	426	88	116	106	278	205
1971	48	71	438	100	150	30	374	231
1972	49	80	569	89	211	68	376	226
1973	62	189	867	117	250	83	439	239
1974	42	148	801	105	223	121	499	309
1975	34	102	450	91	645	130	707	423
1976	64	142	679	96	570	111	771	528
1977	38	239	896	99	637	166	902	674
1978	44	244	1,128	115	537	194	921	701
1979	49	351	1,722	141	448	260	968	727
1980p	39	355	1,754	188	667	548	1,076	1,091

(a) Australian produce. (b) Anthracite, bituminous and sub-bituminous (except briquettes). (c) Includes greasy wool, slipe, wool scoured and carbonised, wool exported on skins. (d) Flour, plain white. (e) Includes concentrates and ghee. (f) Includes sausage casings, natural. (g) Includes juices and fruit preparations. (h) Includes silverlead. (i) Year ended previous December.

OVERSEAS TRADE—continued

PRINCIPAL IMPORTS

Year ended 30 June—	Vegetable foodstuffs, etc.	Apparel, etc.	Oil, etc.	Metals, etc.	Rubber	Paper, etc.
	\$m	\$m	\$m	\$m	\$m	\$m
1902(a)	7.2	21.8	2.4	15.6	1.0	3.2
1912(a)	7.4	32.4	3.2	28.0	2.8	5.2
1922	8.0	62.0	9.4	45.6	3.4	8.8
1932	5.2	30.8	11.0	14.8	1.6	8.8
1942	12.3	65.3	32.4	143.6	6.0	8.7
1951	49.6	277.3	139.7	479.7	59.3	58.0
1952	50.1	407.1	174.9	768.8	68.0	137.5
1953	37.0	96.5	148.5	452.0	17.4	44.9
1954	51.4	227.6	167.0	504.4	23.7	68.2
1955	71.9	253.5	193.8	638.3	34.1	92.8
1956	44.1	222.7	199.3	644.1	44.1	87.2
1957	51.6	182.7	191.1	530.1	33.4	83.5
1958	51.5	217.0	203.4	564.4	33.3	89.8
1959	55.3	193.9	209.0	585.6	33.6	96.1
1960	54.9	222.1	213.5	710.1	48.5	103.8
1961	60.5	264.9	223.3	871.3	47.3	133.8
1962	56.3	208.4	219.8	630.3	35.5	109.6
1963	55.5	233.3	246.3	850.0	46.7	133.5
1964	61.6	234.0	251.5	947.1	51.2	141.7
1965	66.2	272.1	260.1	1,275.2	66.3	156.5

Year ended 30 June—	Food and live animals	Beverages and tobacco	Crude materials, inedible, except fuels	Mineral fuels, lubricants and related materials	Animal and vegetable oils and fats	Chemicals	Manu- factured goods classified chiefly by materials	Machinery and transport equipment	Miscel- laneous manu- factured articles	Com- modities and trans- actions of merchan- dise trade not elsewhere classified
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1966	110	37	197	252	15	266	590	1,121	220	90
1967	118	38	206	247	15	297	586	1,144	243	110
1968	117	36	224	241	14	309	644	1,250	270	111
1969	128	44	228	252	13	328	688	1,328	298	116
1970	140	48	247	255	16	363	753	1,528	350	124
1971	158	50	235	190	18	410	867	1,644	403	125
1972	160	51	219	194	15	410	856	1,483	432	137
1973	163	52	268	175	13	424	893	1,489	475	119
1974	237	65	415	377	28	580	1,404	2,091	721	108
1975	302	75	390	724	43	786	1,496	3,059	961	125
1976	275	90	387	807	42	709	1,460	3,177	1,045	160
1977	455	99	471	996	54	926	1,891	3,980	1,354	105
1978	531	122	477	1,157	66	1,009	1,993	4,118	1,484	124
1979(b)	533	131	562	1,140	66	1,201	2,408	5,731	1,742	125
1980p	655	142	700	2,097	81	1,578	2,901	5,655	2,006	215

(a) Year ended previous December. (b) From 1 July 1978, imports have been classified according to the new A.I.C.C. which is based on the Standard International Trade Classification, Revision 2. The figures for 1979 are, therefore not comparable to those for previous years.

TRANSPORT AND COMMUNICATION
SHIPPING

Year ended 30 June—	<i>Vessels on overseas voyages</i>							
	<i>Entered</i>		<i>Cleared</i>		<i>Overseas cargo</i>			
	<i>No.</i>	<i>Net tonnage</i>	<i>No.</i>	<i>Net tonnage</i>	<i>Discharged</i>		<i>Loaded</i>	
					<i>mil. tonnes</i>	<i>mil. cubic metres</i>	<i>mil. tonnes</i>	<i>mil. cubic metres</i>
1902	(a)	mil. tons	(a)	mil. tons	mil. tonnes	mil. cubic metres	mil. tonnes	mil. cubic metres
1912(b)	2,081	5.0	2,093	5.0	n.a.	n.a.	n.a.	n.a.
1922	1,567	4.6	1,544	4.5	(c)2.4		(c)5.8	
1932	1,519	5.7	1,538	5.7	2.1	1.0	6.0	0.8
1942	1,276	5.2	1,268	5.6	3.8	2.0	2.9	1.5
1949	1,706	7.5	1,780	7.5	5.9	2.9	5.5	1.5
1950	1,942	8.7	1,965	8.7	7.8	4.1	5.1	1.6
1951	1,911	8.6	1,992	8.7	9.2	4.5	5.5	1.5
1952	2,038	9.0	2,098	9.3	9.9	5.3	4.6	1.4
1953	1,988	8.7	2,053	8.9	7.9	2.2	6.1	1.6
1954	2,054	8.9	2,073	8.9	8.7	3.2	5.9	1.5
1955	2,245	9.9	2,260	10.1	11.2	3.9	6.2	1.6
1956	2,425	11.2	2,457	11.1	12.6	3.9	6.8	1.8
1957	2,628	11.8	2,662	11.8	12.8	3.1	8.9	1.6
1958	2,656	12.4	2,598	12.1	13.9	3.3	7.5	1.7
1959	2,706	12.9	2,757	13.1	14.5	3.0	8.8	1.7
1960	2,976	14.5	2,969	14.4	15.7	3.7	10.3	1.7
1961	3,382	17.3	3,396	17.0	17.5	4.3	14.0	1.8
1962	3,599	18.9	3,611	18.8	17.8	3.1	17.5	1.8
1963	3,411	19.0	3,351	18.6	19.8	3.8	15.7	1.8
1964	3,714	20.7	3,763	20.9	21.1	4.5	20.1	2.1
1965	3,813	21.7	3,788	21.7	23.6	5.0	20.8	2.2
1966	3,929	23.0	4,029	23.3	24.5	4.7	22.1	2.3
1967	3,977	27.4	4,017	27.6	27.5	4.7	33.2	2.2
1968	3,972	30.1	4,013	30.3	28.0	5.3	42.0	2.4
1969	4,390	36.4	4,360	36.2	29.8	5.9	55.8	2.3
1970	4,971	44.5	5,053	44.6	28.7	5.8	78.1	2.4
1971	5,476	50.8	5,578	51.4	21.8	5.7	101.8	3.0
1972	5,439	53.1	5,447	53.5	19.5	5.9	108.0	3.2
1973	5,647	62.6	5,631	62.0	20.2	6.1	132.4	3.5
1974	5,975	72.0	5,909	71.5	23.1	7.6	150.5	3.1
1975	6,230	80.3	5,254	80.3	21.9	8.0	164.9	2.9
1976	5,772	75.0	5,824	75.4	19.7	7.2	156.1	2.5
1977	5,830	79.7	5,823	79.5	20.6	7.8	164.9	2.2
1978	5,615	80.2	5,668	80.4	21.7	5.3	164.5	2.2
1979	5,677	82.8	5,655	82.5	21.9	6.8	165.1	2.2

(a) Separate details not available. Total entrances and clearances for year ended December 1901, 4,028 vessels, 6.5 million tons. (b) Year ended previous December. (c) Tons weight plus tons measurement.

TRANSPORT AND COMMUNICATION—continued

GOVERNMENT RAILWAYS (a)

REGULAR INTERNAL AIR SERVICES

Year ended 30 June—	Route kilo- metres (b)	Train kilo- metres	Pas- senger journeys	Freight- tonnes carried	Freight net tonne- kilo- metres	Kilo- metres flown	Passengers		Freight		Mail	
							Embark- ations	Pas- senger kilo- metres	Tonnes up- lifted	Tonne- kilo- metres	Tonnes up- lifted	Tonne- kilo- metres
	'000	mil.	mil.	mil.	mil.	mil.	'000	mil.	'000	mil.	'000	mil.
1902 . . .	20.6	61.5	115	15.7	n.a.	..	..	..	..	..	..	..
1912 . . .	27.0	88.8	228	25.9	n.a.	..	..	..	..	..	..	..
1922 . . .	37.7	90.3	335	32.0	n.a.	..	..	..	..	..	..	..
1932 . . .	43.5	102.7	303	26.5	n.a.	1.4	6	5	..	n.a.	..	n.a.
1942 . . .	43.8	142.4	475	39.5	n.a.	12.6	151	122	1.2	1.5	n.a.	0.7
1949 . . .	43.5	148.5	507	42.1	10,158	56.6	1,409	911	33.9	25.0	1.6	1.3
1950 . . .	43.5	150.3	505	41.3	10,143	58.7	1,500	950	44.8	32.6	2.6	2.0
1951 . . .	43.5	142.7	476	41.6	10,264	65.5	1,685	1,077	53.9	39.6	2.9	2.2
1952 . . .	43.1	150.3	501	45.0	11,046	67.3	1,829	1,162	52.2	39.0	2.4	1.9
1953 . . .	43.1	142.7	498	44.7	10,750	62.9	1,706	1,073	52.3	39.7	2.1	1.8
1954 . . .	42.8	150.5	511	47.6	11,370	66.0	1,772	1,130	63.0	47.7	2.1	1.8
1955 . . .	42.8	152.6	517	48.5	11,929	70.0	1,918	1,233	71.4	54.0	2.1	1.9
1956 . . .	42.6	154.8	515	47.6	11,894	70.3	2,020	1,333	76.6	56.8	2.3	2.0
1957 . . .	42.6	153.0	499	48.3	12,203	67.8	2,125	1,434	68.1	53.0	2.3	2.0
1958 . . .	42.5	145.3	494	46.0	11,132	65.2	2,123	1,447	63.5	48.2	2.4	2.0
1959 . . .	42.3	146.9	485	48.8	11,970	64.9	2,235	1,519	57.0	42.0	2.4	2.2
1960 . . .	42.2	140.2	479	52.0	13,091	69.5	2,660	1,823	59.3	42.6	4.4	3.8
1961 . . .	42.0	149.7	463	56.3	14,370	68.1	2,639	1,786	57.2	41.2	5.4	4.5
1962 . . .	41.2	149.0	461	56.5	14,427	66.3	2,666	1,802	51.9	38.1	5.7	4.7
1963 . . .	41.0	149.6	465	56.8	15,131	70.3	2,833	1,965	53.9	41.3	5.9	4.9
1964 . . .	40.5	155.3	471	62.7	17,170	78.8	3,257	2,266	57.3	44.5	6.4	5.5
1965 . . .	40.3	155.5	464	65.9	18,224	84.2	3,764	2,638	63.5	49.5	7.0	5.9
1966 . . .	40.2	151.7	460	65.5	18,050	88.5	4,158	2,947	69.0	54.9	7.8	6.7
1967 . . .	40.3	150.8	455	69.6	18,832	91.3	4,425	3,174	74.4	58.6	8.7	7.5
1968 . . .	40.5	152.1	453	72.2	20,054	91.3	4,668	3,420	77.2	61.8	8.5	7.6
1969 . . .	40.4	151.0	447	77.0	21,463	97.1	5,185	3,865	81.6	66.5	9.0	8.0
1970 . . .	40.3	156.3	450	83.7	23,973	106.6	5,911	4,511	90.8	74.5	9.6	8.7
1971 . . .	40.3	156.3	453	87.3	25,206	114.6	6,340	4,974	91.4	78.0	9.9	9.3
1972 . . .	40.3	153.7	404	88.7	25,403	113.0	6,629	5,134	89.9	74.2	10.1	9.3
1973 . . .	40.5	152.0	372	92.5	26,582	118.6	7,503	5,685	94.4	81.5	10.1	9.8
1974 . . .	40.4	151.2	373	97.0	28,329	131.8	8,858	6,812	112.7	98.3	9.9	9.3
1975 . . .	40.6	150.6	361	103.5	29,792	135.5	9,393	7,374	107.8	97.9	9.6	9.0
1976 . . .	40.8	150.1	338	104.4	30,809	130.1	9,315	7,281	106.1	97.5	9.7	9.1
1977 . . .	40.1	151.1	332	109.9	31,995	122.9	9,349	7,330	108.1	96.3	9.6	9.1
1978 . . .	39.7	148.8	323	107.3	31,837	134.7	10,289	8,181	120.9	106.5	11.3	10.7
1979 . . .	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	135.5	10,725	8,620	127.5	110.7	13.1	12.5

(a) Particulars of train-kilometres, passenger journeys, freight tonnes carried, and freight net tonne-kilometres refer only to operations for which revenue is received. (b) At end of period.

ROAD TRANSPORT

COMMUNICATION

Year ended 30 June—	Tram trolley- bus and bus services (a)	Motor vehicles on the register (b)					Telephones		Broadcasting and television licences in force (b)		
		Motor cars and station wagons	Com- mer- cial vehicles (c)	Motor cycles	Total motor vehicles (including motor cycles)	Postal matter dealt with (d)	Instru- ments in service (b)	Services in operation (b) (e)	Tele- grams (f)	Broad- cast listeners'	Tele- vision viewers'
	mil.	'000	'000	'000	'000	mil. articles	'000	'000	mil.	'000	'000
1902	n.a.	..	..	..	..	(g) 384	(g) 36	(g) 28	(g) 8.2	..	..
1912	360	n.a.	n.a.	n.a.	n.a.	(g) 698	(g) 118	(g) 96	(g) 13.9	..	..
1922	569	102			102	778	259	196	16.8	(h) 1	..
1932	589	420	96	72	588	887	485	364	13.9	369	..
1942	(i) 1,067	451	250	49	751	1,124	739	531	26.1	1,320	..
1949	1,185	651	457	118	1,225	1,375	1,028	734	37.9	1,763	..
1950	1,076	764	506	134	1,404	1,466	1,110	795	38.0	1,841	..
1951	1,092	879	555	146	1,580	1,526	1,209	870	37.2	1,885	..
1952	1,019	1,028	588	155	1,770	1,482	1,301	939	29.8	1,961	..
1953	988	1,105	587	148	1,840	1,506	1,383	1,001	25.9	1,986	..
1954	981	1,196	611	141	1,947	1,604	1,476	1,070	25.1	2,042	..
1955	966	1,342	654	133	2,130	1,653	1,587	1,153	25.5	2,035	..
1956	927	1,430	693	123	2,246	1,741	1,704	1,240	25.4	2,089	..
1957	833	1,537	710	118	2,366	1,784	1,814	1,318	24.0	2,107	74
1958	803	1,661	731	114	2,506	1,895	1,937	1,407	22.9	2,138	291
1959	778	1,784	755	110	2,649	1,951	2,056	1,491	22.5	2,264	578
1960	758	1,938	784	102	2,824	1,953	2,164	1,562	22.2	2,283	955
1961	726	2,070	800	93	2,963	2,048	2,266	1,631	21.8	2,256	1,217
1962	718	2,201	815	85	3,101	2,101	2,382	1,719	21.6	2,220	1,424
1963	712	2,377	832	77	3,286	2,202	2,523	1,812	21.8	2,240	1,655
1964	702	2,583	846	69	3,498	2,342	2,670	1,919	23.4	2,302	1,882
1965	685	2,792	858	65	3,715	2,443	2,811	2,010	24.3	2,358	2,045
1966	653	2,947	868	64	3,878	2,556	2,978	2,120	25.0	2,526	2,226
1967	621	3,104	880	69	4,053	2,683	3,178	2,235	25.6	2,538	2,405
1968	609	3,305	892	83	4,279	2,648	3,392	2,359	(j) 23.4	2,580	2,519
1969	590	3,499	911	98	4,508	2,648	3,599	2,511	(j) 23.3	2,630	2,649
1970	575	3,720	938	114	4,772	2,664	3,913	2,704	(j) 23.2	2,670	2,758
1971	561	3,935	961	144	5,039	2,685	4,152	2,857	(j) 21.2	2,699	2,845
1972	503	4,141	996	180	5,317	2,649	4,400	2,978	(j) 20.2	2,758	2,939
1973	521	4,362	1,041	210	5,613	2,691	4,659	3,147	(j) 20.4	2,814	3,013
1974	533	4,604	1,090	259	5,953	2,656	5,000	3,361	(j) 20.7	(k) 2,851	(k) 3,022
1975	531	4,859	1,140	278	6,277	2,516	5,267	3,539	(j) 18.5	..	..
1976	515	5,073	1,215	293	6,581	2,209	5,502	3,700	(j) 12.9	..	..
1977	514	5,243	1,280	296	6,818	2,198	5,835	3,907	(j) 10.4	..	..
1978	516	5,462	1,360	292	7,115	2,304	6,181	4,166	9.0	..	..
1979	(j) 459	5,657	1,413	288	7,358	2,505	6,677	4,449	7.1	..	..
1980	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	2,631	7,153	4,743	5.4	..	..

(a) Government and municipal trolley-bus services ceased in August 1969. (b) At end of period. (c) Open and closed light commercial type vehicles, rigid and articulated trucks, other truck type vehicles and buses. (d) Letters, postcards, letter-cards, newspapers, packets, parcels, and registered articles. (e) All single line services were one half the number of duplex lines. Until the introduction of duplex services in December 1948, statistics for orange lines and telephone services were identical. (f) Telegrams despatched to places within Australia and despatched to or received from overseas. (g) Year ended previous December. (h) Year 1923-24. First year licences issued. (i) Tram passenger journeys only before 1942. (j) Excludes telegrams received from overseas. These particulars are no longer available. (k) Television viewer and broadcast listener's licences were abolished on 17 September 1974. (l) Excludes details for South Australia, which are no longer separately identifiable from the railway operations of the State Transport Authority.

NATIONAL ACCOUNTS
GROSS DOMESTIC PRODUCT

Year—	At current prices			At constant prices(a)			
	(b)	(c)	(d)	1953-54 prices (d)	1959-60 prices (d)	1966-67 prices (d)	1974-75 prices (d)
	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1900-01	419	..	..	..	..	..	..
1938-39	1,847	1,860	..	..	..	..	..
1939-40	..	2,040	..	..	..	..	..
1940-41	..	2,174	..	..	..	..	..
1941-42	..	2,548	..	..	..	..	..
1942-43	..	2,936	..	..	..	..	..
1943-44	..	2,986	..	..	..	..	..
1944-45	..	2,906	..	..	..	..	..
1945-46	..	3,006	..	..	..	..	..
1946-47	..	3,234	..	..	..	..	..
1947-48	..	3,988	..	..	..	..	..
1948-49	..	4,524	4,324	7,258	..	..	..
1949-50	5,099	7,849	..	..	..
1950-51	6,773	8,318	..	..	..
1951-52	7,267	8,485	..	..	..
1952-53	8,242	8,468	..	..	..
1953-54	9,010	9,010	10,448	..	..
1954-55	9,598	9,488	11,079	..	..
1955-56	30,396	10,018	11,630	..	..
1956-57	11,321	10,271	11,852	..	..
1957-58	11,575	10,432	12,109	..	..
1958-59	12,433	11,346	13,002	..	..
1959-60	13,702	11,976	13,702	16,330	..
1960-61	14,572	..	14,136	16,882	..
1961-62	14,921	..	14,291	17,100	..
1962-63	16,118	..	15,219	18,241	..
1963-64	17,906	..	16,373	19,546	..
1964-65	19,696	..	17,644	20,964	..
1965-66	20,686	..	17,896	21,349	..
1966-67	22,771	..	19,071	22,771	42,423
1967-68	24,290	..	..	23,668	43,849
1968-69	27,408	..	..	25,819	48,027
1969-70	30,393	..	..	27,411	50,765
1970-71	33,601	..	..	28,678	53,372
1971-72	37,535	..	..	29,918	55,708
1972-73	42,730	..	..	31,339	57,764
1973-74	51,270	..	..	32,991	60,758
1974-75	61,702	..	..	33,434	61,702
1975-76	72,702	..	..	..	63,285
1976-77	83,214	..	..	..	65,337
1977-78	90,278	..	..	..	65,537
1978-79	101,134	..	..	..	68,123
1979-80	113,818	..	..	..	69,604

(a) For a description of constant price estimates, see *Australian National Accounts, 1976-77* (5204.0) pp 15 and 109. (b) N.G. Butlin, *Australian Domestic Product, Investment and Foreign Borrowing 1861-1938-39*, Cambridge University Press, Cambridge, 1962. Gross domestic product excluding livestock accumulation approximates conceptually gross domestic product as defined in the Australian National Accounts. (c) Published by the Commonwealth Statistician. Figures prior to 1948-49 are from *National Income and Expenditure 1955-56* and are not strictly comparable with subsequent figures because of a number of definitional changes and statistical revisions; see pages 18-19, 117-20, *Australian National Accounts 1948-49 to 1961-62*, Commonwealth Bureau of Census and Statistics. (d) *Australian National Accounts 1978-79*, Australian Bureau of Statistics, and, for the last five years, the Budget Paper No. 9, *National Income and Expenditure 1979-80*.

NATIONAL ACCOUNTS—continued

GROSS FIXED CAPITAL EXPENDITURE

Year—	At current prices		At constant prices(a)			
	(b)	(c)	1953-54 prices(c)	1959-60 prices(c)	1966-67 prices(c)	1974-75 prices(c)
	\$m	\$m	\$m	\$m	\$m	\$m
1900-01	56	..	..	..	..	..
1938-39	298	(316)	..	..	..	..
1939-40
1940-41
1941-42
1942-43
1943-44
1944-45
1945-46
1946-47
1947-48
1948-49	..	792	1,350	..	..	..
1949-50	..	1,064	1,652	..	..	..
1950-51	..	1,524	2,049	..	..	..
1951-52	..	1,938	2,194	..	..	..
1952-53	..	1,937	1,983	..	..	..
1953-54	..	2,128	2,128	2,511	..	..
1954-55	..	2,353	2,294	2,698	..	..
1955-56	..	2,567	2,380	2,811	..	..
1956-57	..	2,667	2,380	2,819	..	..
1957-58	..	2,856	2,499	2,951	..	..
1958-59	..	3,022	2,614	3,085	..	..
1959-60	..	3,405	2,886	3,405	3,947	..
1960-61	..	3,671	..	3,569	4,159	..
1961-62	..	3,708	..	3,558	4,152	..
1962-63	..	4,014	..	3,837	4,466	..
1963-64	..	4,499	..	4,227	4,915	..
1964-65	..	5,250	..	4,789	5,561	..
1965-66	..	5,723	..	5,077	5,912	..
1966-67	..	6,009	..	5,159	6,009	11,102
1967-68	..	6,533	..	..	6,355	11,781
1968-69	..	7,261	..	..	6,816	12,665
1969-70	..	7,926	..	..	7,130	13,315
1970-71	..	8,789	..	..	7,446	14,052
1971-72	..	9,637	..	..	7,645	14,371
1972-73	..	10,178	..	..	7,592	14,263
1973-74	..	11,766	..	..	7,815	14,530
1974-75	..	14,206	..	..	7,679	14,206
1975-76	..	16,918	..	..	..	14,626
1976-77	..	18,904	..	..	..	14,507
1977-78	..	20,547	..	..	..	14,428
1978-79	..	22,695	..	..	..	14,834
1979-80	..	24,785	..	..	..	14,636

(a) For a description of constant price estimates, see *Australian National Accounts 1976-77* (5204.0) pp 15 and 109. (b) N. G. Butlin, *op cit*. For a variety of reasons, Professor Butlin's gross domestic capital formation figures given here, differ conceptually from those for gross fixed capital expenditure in the Australian National Accounts. (c) *Australian National Accounts 1978-79*, Australian Bureau of Statistics, and for the last five years, the Budget Paper No. 9, *National Income and Expenditure, 1979-80*. The figure of \$316 million for gross fixed capital expenditure in 1938-39 is based on a reconstruction of earlier estimates, and is approximately consistent with the present Australian National Accounts series.

PRIVATE FINANCE

NOTE ISSUE

BANKING

June—	Australian notes on issue (a)	Trading banks		Debits to customers' accounts (b)	Savings banks Depositors balances (c)
		Advances (b)	Deposits (b)		
	\$m	\$m	\$m	\$m	\$m
1950	463	1,062	2,257	655	1,524
1951	551	1,271	2,815	897	1,675
1952	605	1,656	2,564	866	1,784
1953	657	1,450	2,856	878	1,895
1954	688	1,690	3,061	1,101	2,020
1955	726	1,982	3,089	1,129	2,147
1956	745	1,945	2,992	1,124	2,282
1957	763	1,897	3,231	1,251	2,455
1958	775	2,060	3,240	1,284	2,594
1959	790	2,007	3,362	1,432	2,783
1960	843	2,211	3,611	1,737	3,045
1961	839	2,238	3,600	1,654	3,155
1962	856	2,287	3,837	1,848	3,470
1963	869	2,465	4,064	2,028	3,940
1964	870	2,610	4,649	2,318	4,476
1965	862	2,955	5,038	2,653	4,887
1966	849	3,183	5,308	2,660	5,254
1967	938	3,548	5,614	2,964	5,765
1968	1,006	4,020	6,087	3,572	6,222
1969	1,107	4,384	6,706	4,035	6,707
1970	1,216	4,903	7,099	4,861	7,105
1971	1,369	5,317	7,431	5,668	7,635
1972	1,499	5,876	8,322	6,146	8,391
1973	1,758	7,856	11,072	8,035	10,238
1974	2,146	10,120	12,714	8,988	11,199
1975	2,557	11,205	14,936	10,095	(d) 12,873
1976	2,921	12,576	16,955	13,368	14,828
1977	3,291	14,006	19,089	14,879	16,372
1978	3,670	15,683	19,746	17,624	18,052
1979	4,107	17,653	22,179	20,555	19,839
1980	4,586	20,402	25,647	24,730	21,268

(a) Last Wednesday in June. (b) Weekly average for month of June. (c) End of June. (d) From June 1975 break in series due to a change in accounting procedures by one bank.

PUBLIC FINANCE

COMMONWEALTH GOVERNMENT

STATE

GOVERNMENT SECURITIES ON ISSUE (a)

Year ended 30 June—	Consolidated revenue fund		Net loan fund expenditure (b)	Taxation collections	Consolidated revenue fund		Net loan expenditure (b)	Taxation collections	Commonwealth Government Securities on Issue				In Australia
	Revenue	Expenditure			Revenue	Expenditure			Government	State	Total	Overseas	
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1902	23	8	..	18	56	58	19	5	..	429	429	n.a.	n.a.
1912	41	29	2	32	83	82	33	11	12	557	569	388	181
1922	128	128	10	99	170	175	67	36	708	1,039	1,747	823	924
1932	143	143	8	99	199	242	12	65	692	1,800	2,492	1,320	1,172
1942	420	420	426	362	305	299	17	115	1,340	2,038	3,378	1,312	2,066
1950	1,161	1,161	85	1,018	521	525	147	83	3,731	2,367	6,098	1,099	4,999
1951	1,684	1,684	101	1,447	613	613	257	103	3,777	2,619	6,396	1,067	5,329
1952	2,034	2,034	63	1,848	777	783	395	126	3,838	2,993	6,830	1,113	5,717
1953	2,080	2,080	71	1,783	876	877	322	142	3,893	3,288	7,181	1,142	6,038
1954	2,046	2,046	83	1,810	941	935	335	161	3,964	3,573	7,537	1,165	6,372
1955	2,135	2,135	66	1,882	991	998	321	179	3,998	3,846	7,844	1,216	6,628
1956	2,227	2,227	88	2,014	1,052	1,082	312	196	4,031	4,121	8,151	1,269	6,882
1957	2,624	2,624	88	2,208	1,154	1,168	317	229	3,957	4,396	8,353	1,216	7,138
1958	2,648	2,648	90	2,338	1,210	1,224	314	256	3,670	4,686	8,356	1,248	7,100
1959	2,592	2,592	132	2,283	1,280	1,295	338	276	3,512	4,988	8,499	1,319	7,186
1960	2,877	2,877	119	2,519	1,399	1,404	357	320	3,334	5,301	8,635	1,389	7,242
1961	3,277	3,277	83	2,871	1,511	1,513	384	335	3,215	5,630	8,845	1,413	7,438
1962	3,283	3,283	182	2,858	1,609	1,617	395	394	3,119	5,963	9,082	1,424	7,655
1963	3,371	3,371	274	2,907	1,694	1,696	405	438	3,172	6,314	9,434	1,522	7,917
1964	3,809	3,809	226	3,247	1,829	1,829	438	496	3,121	6,691	9,863	1,545	8,314
1965	4,418	4,418	167	3,819	1,947	1,965	477	549	3,134	7,091	10,225	1,529	8,697
1966	4,879	4,879	(c) 260	4,221	2,094	2,119	492	591	3,145	7,495	10,639	1,505	9,138
1967	5,228	5,288	(c) 362	4,492	2,286	2,289	516	664	3,275	7,934	11,209	1,532	9,675
1968	5,760	5,760	(c) 499	4,952	2,463	2,468	540	753	3,600	8,317	11,917	1,558	10,358
1969	6,086	6,086	(c) 236	5,528	2,689	2,700	574	861	3,682	8,831	12,512	1,698	10,813
1970	6,979	6,979	(c) 446	6,380	3,010	3,028	615	962	3,885	9,320	13,205	1,580	11,625
1971	7,838	7,838	(c) 439	7,183	3,457	3,483	628	1,010	3,801	9,691	13,492	1,546	11,946
1972	8,688	8,688	(c) 218	7,939	4,035	4,050	896	1,414	3,808	10,227	14,035	1,442	12,592
1973	9,278	9,278	(c) 281	8,470	4,675	4,704	973	1,781	3,963	10,781	14,744	1,265	13,479
1974	11,976	11,976	(c) 239	10,917	5,481	5,514	868	2,207	4,088	11,219	15,306	1,032	14,274
1975	15,391	15,391	(c) 1,785	14,211	7,109	7,187	1,097	2,792	5,956	11,814	17,770	1,182	16,587
1976	19,713	19,713	2,277	16,938	8,774	8,736	1,379	3,470	9,010	11,328	20,338	1,325	19,013
1977	21,436	21,436	1,912	19,806	10,258	10,231	1,465	3,973	11,192	12,099	23,290	1,871	21,420
1978	23,455	23,455	2,461	21,501	11,398	11,431	1,506	4,301	13,992	12,931	26,923	3,635	23,287
1979	25,484	25,484	2,857	23,534	(d) 12,614	(d) 12,604	1,797	(d) 4,670	17,405	13,681	31,086	5,255	25,831
1980	29,627	29,627	2,733	27,546	(d) 14,400	(d) 14,403	1,684	(d) 5,243	18,487	14,295	32,783	5,396	27,387

(a) At 30 June. Expressed in Australian currency equivalents at ruling rates of exchange.
ced under the United States Defence Credits Arrangements. (d) Includes Northern Territory.

(b) Loan expenditure on works and services.

(c) Includes expenditure finan-

SOCIAL

PENSIONS, BENEFITS, ETC.

Year ended 30 June—	Age and invalid pensions (including Wives' Allowances Pensions)			Family allowances (a)		Widow's pensions		Unemployment benefits	
	Pensioners (b)	No. of wives (c)	Amount paid (d)	No. of children (b)	Allowance paid	Pensioners (b)	Amount paid (d)	No. on benefit— weekly average	Amount paid (d)
	'000	'000	\$m	'000	\$m	'000	\$m	'000	\$m
1902	..	..	..	..	..	..	..	..	..
1912	90	..	4.3	..	..	..	..	..	..
1922	147	..	10.8	..	..	..	..	..	..
1932	261	..	22.3	..	..	..	..	..	..
1942	341	..	38.5	910	22.6	..	..	..	..
1950	414	13	89.1	1,836	(e)60.7	43	8.8	13	2.5
1951	417	12	99.0	2,389	87.2	42	9.7	1	(f)
1952	426	11	119.6	2,518	93.2	41	11.2	2	(f)
1953	451	12	144.8	2,624	(e)106.5	41	12.7	30	9.1
1954	478	12	162.6	2,717	101.5	41	13.2	14	5.0
1955	510	13	176.0	2,789	105.1	42	13.7	4	1.4
1956	535	13	203.3	2,876	(e)120.8	43	15.4	4	1.4
1957	554	13	218.4	2,978	114.1	45	17.7	12	4.2
1958	574	12	243.2	3,074	117.5	47	19.7	24	9.8
1959	598	12	259.1	3,172	(e)135.1	50	21.6	28	11.9
1960	619	13	294.0	3,252	125.1	52	24.3	21	9.0
1961	651	14	315.9	3,340	(e)148.6	55	26.9	22	8.9
1962	691	14	360.5	3,420	132.8	57	30.2	53	25.3
1963	711	15	375.5	3,458	135.4	58	31.4	40	21.3
1964	725	16	399.9	3,631	(e)168.8	62	41.6	26	13.5
1965	736	16	426.6	3,711	172.8	65	47.0	14	6.8
1966	744	17	442.4	3,763	176.4	69	50.0	15	7.8
1967	764	19	481.8	3,835	(e)199.3	73	56.4	21	11.2
1968	797	19	514.0	3,891	187.9	75	61.1	21	11.2
1969	827	20	558.6	3,996	193.3	78	69.1	18	9.3
1970	913	23	642.0	4,079	(e)220.1	87	81.8	13	8.9
1971	942	23	702.3	4,156	198.5	90	90.5	15	10.8
1972	972	24	818.5	4,235	216.6	93	104.6	29	26.0
1973	1,081	41	1,072.4	4,239	(e)253.9	106	140.5	40	46.6
1974	1,184	47	1,372.4	4,261	225.4	115	181.0	34	58.2
1975	1,266	51	1,918.9	4,284	224.9	121	241.4	117	251.7
1976	1,342	59	2,536.4	4,293	(e)265.5	129	325.3	192	513.9
1977	1,408	69	2,994.6	4,302	1,023.3	139	370.2	216	618.1
1978	1,469	78	3,532.3	4,304	1,038.1	150	439.5	266	794.1
1979	1,512	86	3,919.4	4,231	(g)974.9	161	499.3	(h)306	910.0
1980	1,551	91	4,305.1	4,224	(i)1,035.4	166	561.4	(j)306	925.2

(a) Previously child and student endowment. (b) At 30 June. (c) Wives' allowance commenced on 8 July 1943 and was replaced by wives' pension on 5 October 1972. (d) Includes expenditure on additional pension/benefit for children. (e) Five 12-weekly payments made during the year instead of the normal four. (f) Less than \$0.05 million. (g) Does not include \$22,714,000 paid in respect of family allowance payday 3 July 1979. (h) Estimate used for Western Australia. (i) Includes \$22,714,000 paid during 1978-79 in respect of family payday 3 July 1979. (j) Estimated.

SOCIAL—continued
PENSIONS, BENEFITS, ETC.—continued

Year ended 30 June—	Hospital and nursing home benefits— amount paid	Medical benefits— amount paid	Pharma- ceutical benefits— amount paid	Total Commonwealth Government expenditure on pensions, benefits, etc. (a)	Disability pensions paid to veterans and dependants	Service pensions paid to veterans and dependants	
	No. (b)	Amount paid	No. (b)	Amount paid	No. (b)	Amount paid	
	\$m	\$m	\$m	\$m	'000	'000	\$m
1902	..	..	..	4.3	..	..	..
1912	..	..	..	12.1	225	14.1	..
1922	..	..	..	23.0	274	14.9	..
1932	..	..	..	61.8	220	15.0	14
1942	..	..	..	185.6	471	42.1	16
1950	12.6	..	0.1	5.9	230.0	53.1	17
1951	13.1	..	..	275.2	525	66.7	17
1952	13.4	2.1	15.4	331.0	544	72.6	19
1953	14.4	3.5	14.4	353.1	564	78.1	21
1954	16.7	7.2	18.5	378.6	584	87.8	22
1955	18.6	13.5	21.5	429.7	600	91.3	35
1956	19.1	14.6	23.8	447.8	614	95.6	39
1957	19.6	18.3	23.4	495.0	629	106.6	42
1958	21.6	20.6	30.1	556.5	643	109.0	44
1959	29.6	23.2	41.9	598.7	655	117.5	46
1960	37.2	26.8	48.7	661.2	662	132.6	50
1961	41.3	28.4	55.8	730.4	671	135.1	58
1962	44.4	30.6	70.4	758.6	671	140.7	62
1963	47.3	32.6	76.9	832.7	669	154.5	65
1964	56.2	34.4	78.8	890.4	660	153.5	65
1965	58.8	44.6	82.2	941.6	647	170.5	66
1966	60.7	54.6	91.8	1,031.1	632	161.7	67
1967	67.4	58.2	101.3	1,075.0	617	164.4	69
1968	74.8	62.5	105.1	1,162.3	601	182.8	67
1969	85.9	66.5	118.4	1,341.8	585	183.5	74
1970	111.4	76.1	136.7	1,477.2	570	191.4	77
1971	122.8	115.5	160.3	1,752.3	553	211.1	78
1972	162.0	160.4	173.3	2,197.4	546	225.0	96
1973	198.9	191.1	177.6	2,666.2	532	252.2	109
1974	226.5	198.9	218.3	3,691.0	514	314.1	122
1975	292.8	243.6	262.3	4,658.4	499	340.1	142
1976	254.1	(c) 86.1	283.8	5,925.4	485	371.5	164
1977	195.4	(c) 1.7	234.9	6,794.8	463	419.0	189
1978	188.5	(c) 0.2	256.0	7,365.0	448	415.3	212
1979	200.2	(c) 0.1	271.3				

(a) National Welfare Fund items only, including expenditure for all years on pensions, benefits, etc. which subsequently became payable from the National Welfare Fund. In addition to the items shown in the preceding columns, the tables include expenditure on—the rehabilitation service; milk for school children; tuberculosis campaign; sickness, special and funeral benefits and some miscellaneous welfare and health services. Excludes war and service pensions, telephone rental concessions for pensioners and some minor welfare and health services. (b) At 30 June. (c) Medical benefits applicable to the period after 1 October 1975 are no longer paid from the National Welfare Fund.

SOCIAL—continued

EDUCATION

POLICE AND PRISONS

Year(a)	Schools				Universities (b)			Convicted Prisoners
	Government		Non-government		Number	Students	Police(c)	
	Number	Pupils	Number	Pupils				
	'000	'000	'000	'000		'000	'000	'000
1902	7.2	637	2.4	144	4	1.9	5.9	4.2
1912	8.4	663	1.9	164	6	3.8	6.6	3.4
1922	9.6	837	1.7	202	6	7.8	7.0	3.0
1932	10.2	934	1.8	221	6	9.9	8.6	4.1
1942	9.0	868	1.8	250	6	10.8	9.7	3.5
1950	7.8	1,027	1.9	310	8	30.6	11.5	4.0
1951	7.6	1,078	1.9	326	8	31.7	11.9	4.2
1952	7.6	1,145	1.9	348	8	29.6	12.6	4.8
1953	7.6	1,206	2.0	366	8	28.8	12.7	4.8
1954	7.6	1,275	2.0	388	9	29.4	12.6	4.8
1955	7.6	1,337	2.1	410	9	30.8	12.9	5.1
1956	7.7	1,357	2.1	432	9	34.4	13.5	6.0
1957	7.7	1,425	2.1	453	9	36.6	14.1	6.4
1958	7.8	1,496	2.0	471	9	41.5	14.5	6.6
1959	7.8	1,558	2.1	489	9	47.2	14.9	6.6
1960	7.9	1,613	2.1	511	9	53.4	15.3	6.8
1961	7.9	1,664	2.1	527	9	57.7	15.9	7.2
1962	7.9	1,711	2.2	540	10	63.3	16.4	7.4
1963	7.9	1,754	2.2	553	10	69.1	16.7	7.7
1964	7.9	1,799	2.2	565	10	76.2	17.2	7.7
1965	7.8	1,855	2.2	580	11	83.3	17.6	7.7
1966	7.8	1,919	2.2	583	13	91.3	18.4	8.1
1967	7.7	1,991	2.2	595	14	95.4	19.0	8.7
1968	7.6	2,055	2.2	601	14	101.5	19.7	8.8
1969	7.5	2,114	2.2	603	14	109.7	20.1	9.2
1970	7.5	2,160	2.2	608	15	116.8	20.3	9.3
1971	7.4	2,197	2.2	611	15	123.8	21.0	9.5
1972	7.4	2,229	2.2	612	15	128.7	22.2	9.8
1973	7.3	2,241	2.2	613	15	133.1	23.1	9.1
1974	7.3	2,258	2.2	618	17	142.9	24.4	7.6
1975	7.3	2,298	2.1	621	18	148.3	25.7	7.8
1976	7.3	2,335	2.1	625	18	154.0	26.3	8.0
1977	7.3	2,364	2.1	631	19	158.4	27.4	8.1
1978	7.4	2,371	2.1	639	19	160.0	27.9	8.7
1979	7.4	2,337	2.2	650	19	160.8	29.9	9.4

(a) Years ended at varying dates for education statistics. Years ended 30 June for Police and Prisons.
it enrolls its first student and not from the date it was founded.

(c) Excludes Commonwealth Police.

(b) A university is counted for the first time when

DIARY OF PRINCIPAL ECONOMIC EVENTS, NOVEMBER 1979 TO OCTOBER 1980

The diary records major announcements by Commonwealth and State Governments which concern the Australian economy. Included are announcements on interest rates, taxation, capital raisings, tariff protection and industry assistance. Also included are significant announcements by the Australian Reserve Bank relating to Australian banking, monetary policy, etc, and by private and public enterprises relating to major investment plans, prices, etc. It also records national wage case decisions announced by the Arbitration Commission. In some instances closely related items have been recorded together against the first relevant date.

November 1979

- 5 The Commonwealth Government announced that wheatgrowers would receive an interim first advance payment of \$75 per tonne, less freight, for deliveries to the Australian Wheat Board prior to the determination of the guaranteed minimum delivery price for the 1979-80 season.
- 6 The Commonwealth Government announced that the International Monetary Fund (IMF) had approved an application by Australia for a drawing of \$27.7 million from its Buffer Stock Financing Facility for the purpose of funding special stocks accumulated by Australia during 1978 as part of its obligations under the International Sugar Agreement.
- 11 It was announced by the Commonwealth Government that Australia would have the opportunity to supply a further 6,500 tonnes of beef to the U.S. market in 1979 as a result of the inability of other countries to meet their allocated quota.
- 12 The Australian Wheat Board announced that it had signed an agreement for the sale of 600,000 tonnes of wheat to Indonesia during the following 12 months.

The Commonwealth Government provided further details of the scheme to tax the income of trusts and dependent children announced on 26 July 1979. The Government had decided that the new system would not apply to student children aged 18 to 25 years and that the level of 'non employment' income exempted from the scheme would be increased from \$416 to \$1,040.

- 22 It was announced that the Commonwealth Government had completed negotiations for its fourth Yen public bond issue on the Tokyo capital market. The loan of Y30 billion (approximately \$A112 million) would carry an interest rate of 8.2 per cent per annum over a term of 12 years.
- 23 Broken Hill Propriety Ltd (BHP) announced an average 5.25 per cent increase in steel prices effective from 26 November.
- 27 The Treasurer and the Minister for the Capital Territory announced the Government's decision, with effect from 1 January 1980, to raise the general pay-roll tax exemption level applying in the A.C.T. to match the proposed corresponding level in N.S.W.
- 28 It was announced that approval had been given under the Commonwealth Government's foreign investment policy for the development of the Worsley bauxite/alumina project in Western Australia and would involve capital expenditure of approximately \$1,000 million.
- 30 The Governor of the Reserve Bank announced that the Statutory Reserve Deposit ratio of the major trading banks would be raised from 5.5 per cent to 6 per cent effective 6 December.
The Supreme Court of South Australia issued an order approving a Scheme of Arrangement between the Bank of Adelaide and its members providing for the merger of the Bank with the Australia and New Zealand Banking Group.
The Commonwealth Government announced that the guaranteed minimum delivery price for wheat to apply for the 1979-80 season under the new wheat marketing arrangements would be \$114.71 per tonne. Wheat sold on the domestic market for human consumption had been set under the legislation at \$128.78 per tonne.

December 1979

- 7 Commonwealth and State Governments, meeting as the Loan Council, approved nine new infrastructure projects under the special financing programme designed to accelerate national development. The new project would require additions to semi-government borrowing programmes totalling \$800 million at current prices over the eight-year period to 1986-87.

The Premiers' Conference adopted the new guarantee arrangements which set a minimum amount to be provided to the States in 1980-81 under the tax sharing arrangements. The States' tax sharing entitlements in 1980-81 would be 39.87 per cent of net personal income tax collected in 1979-80, distributed amongst the States according to the tax sharing relativities. Under the new guarantee arrangements each State would receive no less in real terms than the amount it received in 1979-80.

The Commonwealth Government announced that a conversion loan would not be made to holders of \$496.2 million Commonwealth bonds due to mature on 15 December.

- 11 The Commonwealth Government announced that Japan would import a further 8,000 tonnes of Australian beef under the special purpose beef quota in the remainder of the 1979 financial year.
- 12 The Commonwealth Government released further details of the proposed income tax concessions, announced in the 1979-80 Budget Speech, to apply in respect of expenditure on converting oil-fired equipment to use alternative energy sources.
- 18 It was announced that the Commonwealth Government had determined the details of the export facilitation scheme to be introduced into the Motor Vehicle Manufacturing Plan. A decision to introduce an export facilitation scheme, together with its minimum elements, was announced by the Commonwealth Government in February 1979.

The Commonwealth Government announced the sale of the Government's share of the Ranger uranium project to Peko-Wallsend Ltd for a cash premium of \$125 million and full reimbursement of expenditures incurred.

- 20 The Commonwealth Government announced that Australia would be able to export a further 3,100 tonnes of beef to the United States in 1979 as a result of the inability of other beef exporting countries to supply their full entitlements to that country.
- 28 The Esso/BHP Partnership announced planned expenditure of \$240 million on Bass Strait exploration and development in 1980. This would double the 1979 spending. The Partnership had set a budget of \$1,200 million for exploration and development during the four years commencing 1980.
- 30 The Commonwealth Government announced new import parity prices to apply in respect of indigenous crude oil production from 1 January 1980. The price of Bass Strait crude, which comprises over 90 per cent of Australian production, was increased by \$6.11 per barrel to \$24.77 per barrel.

January 1980

- 1 Australia repurchased the equivalent of SDR61.7 million of Australian currency from the International Monetary Fund (IMF). This repurchase obligation stemmed from Australia's 1976 drawing from the IMF's Compensatory Financing Facility.
- 2 The Commonwealth Government announced that, on the basis of import parity price levels effective from 1 January 1980, the crude oil levy would produce extra revenue of approximately \$404 million in the 1979-80 financial year. The total revenue from the crude oil and LPG levy in 1979-80 would rise to approximately \$2,500 million.
- 4 The Commonwealth Government announced that Australia had received, on 1 January, an allocation of 82.16 million Special Drawing Rights from the IMF. The allocation, the fifth to be made to Australia by the Fund, would be worth approximately \$A97.6 million.

The Conciliation and Arbitration Commission granted an increase of 4.5 per cent in all Federal Awards, effective from the first pay period commencing on or after 4 January.

- 8 The Commonwealth Government announced that the Executive Committee of the International Sugar Organisation had decided to increase the global sugar export quota by 1.3 million tonnes in the light of a firming in world sugar prices. This would result in additional exports of 80,000 tonnes from Australia.
- 11 The Reserve Bank announced that from 14 January, stocks which, for the time being, the Bank stands ready to supply through selected intermediaries at named prices would be a 9.7 per cent October 1982 stock and a 10.0 per cent February 1985 stock. (The 9.7 per cent May 1989 stock previously available under these arrangements was withdrawn.)
- 16 The Commonwealth Government announced that the Australian Loan Council had decided to increase the maximum interest rates for borrowings by local and semi-government authorities, effective from 17 January 1980.
- 17 The Ministerial Council for Companies and Securities announced that the National Companies and Securities Commission Act would be proclaimed on 1 February 1980 and that the Commission would commence activities on 11 March 1980.
- 23 The Commonwealth Government announced that the Electrolytic Zinc Company of Australasia Ltd had decided to join with Peko-Wallsend Ltd in the new company Energy Resources of Australia (ERA) in taking up the Government's interests in the Ranger uranium project.
- 24 The Commonwealth Government announced a temporary scheme of assistance to household users of LPG. The scheme, involving a subsidy of \$80 per tonne of LPG, would operate for three years.

February 1980

- 4 The Commonwealth Government announced that agreement had been reached with the Commission of the European Communities to limit steel exports in 1980 to the 1979 level of 450,000 tonnes of which up to 350,000 tonnes could be finished steel products.
- 5 The Commonwealth Government announced that securities totalling \$182.4 million which were issued in February 1975 would be redeemed, with redemption payments being made from balances in the National Debt Sinking Fund and the Loan Fund.

It was announced that the Commonwealth Government had decided to defer adjustment of the import parity price of domestically-produced crude oil following the latest increase of \$US2 per barrel in the price of Saudi Arabian light oil which was to take effect retroactively from 1 January 1980.

- 6 The Commonwealth Government announced a 20 per cent price rise commencing 1 April 1980 for iron ore delivered to Japan by the Mount Newman partners.
- 10 The Commonwealth Government announced that the total value of foreign investment proposals approved in the December quarter 1979 was a record \$2,883 million. This consisted of total expected investment associated with the approved proposals for acquisitions of Australian businesses of \$756 million and expected expenditure on new business proposals of \$2,127 million.
- 13 The Full Bench of the Australian Conciliation and Arbitration Commission reduced an award to wool industry storemen and packers following an appeal by the Australian Wool Selling Brokers Employers' Federation. The increases granted during December 1979 which ranged from \$12.50 to \$15.90 per week were reduced to \$8 per week.
- 14 The Commonwealth Government announced that the International Sugar Organisation had authorised the release of the first third of the International Sugar Agreement special stock. By 21 February the remaining two-thirds of the special stock had also been released.

It was announced that the Commonwealth Government had completed negotiations with Deutsche Bank for a public bond issue on the German capital market of DM250 million (approximately equivalent to \$A130 million).

Storemen and packers employed in the wool industry began industrial action as part of a campaign to restore the increases through over award payments.

- 20 A programme for increased defence expenditure was outlined by the Commonwealth Government. The programme commits the government to increased expenditure after the end of the current financial year with the aim of increasing defence spending to approximately 3 per cent of non-farm GDP by the end of the five year programme.
- 21 It was announced that the Commonwealth Government had completed negotiations with Deutsche Bank for a private placement borrowing of DM150 million on the German capital market (approximately equivalent to \$A78 million).
The Commonwealth Government released preliminary figures of consumption of petroleum products during 1979 showing that overall demand for petroleum fuels grew by 1.4 per cent during 1979, compared with the five-year average growth rate between 1973 and 1978 of 2.6 per cent. The growth in demand for motor spirit was 2 per cent compared with an average of 3.9 per cent per annum for the previous five years.
- 22 The Commonwealth Government announced that Hamersley had renegotiated iron ore prices with the Japanese steel mills. These prices included those not due for review until next year under the normal price review arrangements and would come into force on 1 April. The overall result was an average price increase of about 20 per cent for ore to be delivered in the Japanese 1980 fiscal year.
- 27 The Japanese Government announced an increase of 2,500 tonnes of beef imports under the general quota for Japan's fiscal year 1979. This raised the level of access for Australian beef into Japan for the 1979 fiscal year to 134,500 tonnes.

March 1980

- 2 The Commonwealth Government announced that the maximum interest rates for borrowings by local and semi-government authorities was to be increased with effect from 3 March 1980.
The Commonwealth Government announced the introduction of a new series of Australian Savings Bonds, Series 16, with an interest rate of 9.75 per cent, an increase of 0.5 per cent over the rate of the previous series.
- 6 The Commonwealth Government announced that:
 - with effect from 1 July 1980, the personal income tax rebate for dependent spouses would be increased from \$597 per annum to \$800 per annum. There would be equivalent percentage increases for other dependent rebates as well as for the sole parent rebate;
 - 50 per cent indexation of the personal taxation scale would apply from 1 July 1980.
- 9 The Commonwealth Government announced the signing of an agreement with the Egyptian Government for the provision of a 10,000 cubic metre cold store complex to be built at Suez. The complex, estimated to cost \$A2 million, is being provided through the Australian Development Assistance Bureau.
- 11 The Commonwealth Government announced the signing of an agreement on trade, economic and technical co-operation between Australia and Iraq.
- 20 Agreement was reached between the Australian Wool Selling Brokers Employers' Federation and the Storemen and Packers' Union for wage increases of between \$2.75 and \$4.25 per week in addition to the \$8 increase.
- 21 The Commonwealth Government announced the lifting of restrictions on wool exports following the settlement of the wool industry dispute.
- 22 It was announced by the Commonwealth Government that international air fares to the U.K., Europe, Middle East, India, South East Asia and the Pacific Islands would rise by 10 per cent and to Africa by 9 per cent from 5 April 1980. The corresponding international freight rates would rise by 8 per cent and 12 per cent.
- 31 The Commonwealth Government announced the extension of the petroleum products freight subsidy scheme so that the cost to consumers for transport of certain petroleum products to most country areas would not exceed 0.44 cents per litre.

The Commonwealth Government announced modifications to the permissible amounts and categories of portfolio investment overseas. The new annual limits for overseas equity and real estate investment are \$40,000 for individuals, \$250,000 for substantial private companies and \$2.5 million for listed and substantial unlisted public companies and institutions. Within these limits individuals may now also invest annually up to \$10,000, substantial private companies up to \$100,000 and public companies up to \$1 million in certain longer-term fixed interest securities.

April 1980

- 1 The Commonwealth Government announced the decision of the International Sugar Council to adjust member countries' export quotas under the International Sugar Agreement according to recent actual export performance. Australia would be permitted to export an extra 25,287 tonnes of raw sugar in 1980 under the revised quota arrangements.
- 16 The Commonwealth Government announced its decision to eliminate all British tariff preferences still remaining on 1 July 1981. All imports from Britain and Ireland would then attract duties equivalent to General Tariff rates.
- 17 Increases in social security pensions effective from 6 May were announced by the Commonwealth Government. The increase of 5.4 per cent is in line with the rise in the consumer price index between the June and December quarters of 1979.
- 30 It was announced that the Commonwealth Government had approved a foreign investment proposal by the Japanese companies Mitsubishi Motor Corporation and Mitsubishi Corporation to increase their share-holding in Chrysler Australia Ltd from about 34 per cent to 100 per cent.

May 1980

- 7 The Commonwealth Government announced the sale to China of an additional 150,000 tonnes of raw sugar. This would take sugar deliveries to China to 1980 to a record figure in excess of 280,000 tonnes.
- 14 It was announced that the Commonwealth Government had decided to provide grants totalling \$628 million for road assistance to the States and the Northern Territory in 1980-81. This allocation represented an increase of 11 per cent over the amount provided in 1979-80 and was designed to enable the 1979-80 level of expenditure to be at least maintained in real terms.
- 19 The Japanese Government announced that import quotas for Australian beef for the period July/December 1980 would be 64,000 tonnes under the general quota system and 8,000 tonnes under its special import regimes. This level was similar to that achieved in the corresponding period of 1979.
- 21 The Commonwealth Government announced the signing of a revised comprehensive double taxation agreement between Australia and Canada.
- 23 It was announced by the Commonwealth Government that a new system of valuing imports for customs duty purposes would be introduced in Australia from 1 July. The Brussels Definition of Value is to be replaced by a Code on Customs Valuation agreed in the Multilateral Trade Negotiations.

June 1980

- 1 The Commonwealth Government announced details of the PAYE taxation arrangements to apply from 1 July 1980. These included increases in dependant rebates and an indexation adjustment of 3.8 per cent. Because of the indexation adjustment, the tax-free threshold will rise from \$3,893 to \$4,041, with corresponding adjustments to the income ranges to which the 32, 46 and 60 per cent tax rates apply.
- 2 Broken Hill Propriety Ltd increased the price of its iron and steel products by an average of 8.86 per cent. This is the largest increase since 1976 and the first for more than six months.
- 4 The Remunerations Tribunal recommended salary and allowance increases for members of parliament of 4.5 per cent. The basic salary for backbenchers will increase to \$28,816 per annum. Electorate allowances will also be increased.

- 10 The Commonwealth Government announced its decision on the final global quota level for passenger car imports in 1980. It had been decided that no further quotas would be issued and that the total global quota for 1980 would therefore constitute the 90,970 quotas allocated to date.
- 17 The Commonwealth Government announced that a double taxation agreement between Australia and the Philippines had entered into force.

The Commonwealth Government announced that the limit on the cost price of motor cars and station wagons (including four wheel drive vehicles) for income tax depreciation purposes for the 1980-81 income year would be \$18,828.

The New South Wales Government decreased the maximum price for petrol in that State by 2 cents per litre.
- 24 It was announced that the Commonwealth Government had decided to restrict the level of grain sales to the Soviet Union in 1980-81; total exports of all grains to the USSR in 1980-81 would be limited to 3.9 million tonnes.
- 25 An increase in the maximum wholesale price of sugar for the Australian market of \$19.38 per tonne to apply from 1 July 1980 was announced.
- 26 It was announced that the Commonwealth Government had decided to underwrite the total production of all prescribed dairy products under the dairy industry marketing arrangements for the 1980-81 season.
- 27 The Loan Council agreed to State Government programmes for 1980-81 of \$1,307 million (of which one-third is provided as a Commonwealth grant) representing an increase of 5 per cent on the previous year, and borrowing programmes for 'larger' State authorities (those borrowing over \$1.2 million in the year) for 1979-80 of \$1,929.6 million, including infrastructure borrowing programmes for such authorities of \$632.3 million. The Loan Council also agreed to evolutionary changes in the marketing arrangements for semi-government borrowings which are regulated by the Loan Council under the 'Gentlemen's Agreement', with the new arrangements to come into effect on 1 July 1980.
- 30 The Commonwealth Government announced details of the new import parity prices for indigenous crude oil and the crude oil levy arrangements to apply from 1 July 1980; the price for Bass Strait crude oil would rise from \$24.77 to \$27.50 per barrel, with prices for other domestic crudes rising by similar amounts. The price of naturally occurring LPG, now linked with the crude oil import parity price, would increase from \$205 a tonne to \$227.63 a tonne.

July 1980

- 7 The Commonwealth Government announced its decision to authorise the Australian Wool Corporation to raise the floor price for wool to 365 cents/kg clean, whole clip average, for the 1980-81 season; in addition, the floor price for 1981-82 would not be less than the level approved for the 1980-81 season.
- 11 The Commonwealth Government announced that the Australian Sugar Industry, through its marketing agents CSR Limited, had signed new long-term contracts for the sale of sugar to Malaysia and Singapore. The new contracts, which were additional to existing contracts, provided for shipment of around 155,000 tonnes in each calendar year from 1981 to 1983, and shipment of 330,000 tonnes in 1984.
- 14 The Conciliation and Arbitration Commission granted an increase of 4.2 per cent in all Federal wage awards effective from the first pay period commencing on or after 14 July.
- 20 The Commonwealth Government announced the introduction of a new series of Australian Savings Bonds (Series 17), to be on issue from the commencement of business on 21 July 1980. The new series would be issued with a coupon interest rate of 10.25 per cent, 0.50 per cent higher than the rate offered on Series 16, and have a maturity date of 1 April 1988.
- 28 The Commonwealth Government announced that CSR Limited, as marketing agents for the Queensland Government, had negotiated a commercial long-term sugar contract with China. The contract, which would run for three years, involved the sale of approximately 250,000 tonnes of sugar each year.

- 31 The Commonwealth Government announced the 1979-80 financial year consumption figures for major petroleum products. These figures showed that consumption had declined by 1.5 per cent relative to 1978-79.

August 1980

- 1 The Chairman of the Prices Justification Tribunal announced that following completion of an examination of recent oil company proposals for higher petroleum product prices the oil companies had been granted an increase in the price of premium motor spirit ranging from 1.04 cents per litre to 1.45 cents per litre.
- 6 It was announced that the Commonwealth Government had decided to increase the interest rate applying to the Income Equalisation Deposit Scheme for primary producers from 5 per cent to 7 per cent.
- 13 The Commonwealth Government announced that Queensland Mines Ltd had signed a contract with a Finnish power utility for the sale of 900 short tons of uranium concentrates in the period 1981-99. Deliveries under the contract were to be made pursuant to the Australia/Finland Bilateral Nuclear Safeguards Agreement signed on 20 July 1978.
- 15 It was announced that the Commonwealth Government had decided to extend the coverage of the Developing Country Preference system to include most textiles, clothing and footwear products. The new scheme, which becomes effective from 1 January 1982, provides preferential margins ranging from 5 to 10 percentage points of duty.
- 18 The Commonwealth Government announced the settlement of contracts for the sale by Energy Resources of Australia to German and Japanese companies of approximately 34,000 short tons of U_3O_8 (Yellow Cake) for delivery over the period 1982 to 1996. The value of the contracts, which were subject to approval, was more than \$A2,000 million at average 1980 market prices.
- 19 The Commonwealth Government 1980-81 Budget was presented. The main points in the speech were as follows:
 - outlays were projected to be \$36,037 million, an increase of 13.7 per cent on 1979-80;
 - receipts were projected to be \$34,471 million, an increase of 16.2 per cent on 1979-80;
 - the overall budget deficit was estimated at \$1,566 million, a reduction of \$468 million on the outcome for 1979-80. When allowance was made for transactions abroad, the Budget provided for a domestic surplus of \$39 million—the first such surplus since 1973-74;
 - it was expected that the rate of increase of the Consumer Price Index (CPI) over the year to June 1981 would be around 10 per cent, the non-farm sector would expand by 3.5 per cent or more and overall growth would be at least 3 per cent in real terms.

September 1980

- 2 Guidelines proposed by the Commonwealth Government regarding the value for taxation purposes of employer-provided housing of the Central Queensland coal miners were agreed to by mining union officials.
- 5 An additional interest rate step was introduced in the scale of maximum borrowing rates for local and semi-government authorities. The new rate structure for public issues (private treaty loan rates in brackets) was: 4-6 years, 12.0 per cent (12.3 per cent); 7-9 years, 12.1 per cent (12.4 per cent); and 10 years and over, 12.3 per cent (12.6 per cent).
- 7 The Commonwealth Government released the June quarter statistics of foreign investment proposals considered by the Foreign Investment Review Board and decided by the Commonwealth Government. The total number of proposals considered (414) was 9 per cent more than the previous quarter and 57 per cent more than the average quarterly figure for 1978-79. Total expected investment foreshadowed in the approved proposals was \$1,410 million, well above the average quarterly figure of \$880 million in 1978-79.
- 12 The Commonwealth Government announced the formal assignment of its interest in the Ranger uranium project to Energy Resources of Australia (ERA). Peko-Wallsend Operations Ltd and the Electrolytic Zinc Company of Australasia Ltd, the original Australian partners who discovered the Ranger deposits, own 61.6 per cent of ERA's equity between them with 14.2 per cent being held by Australian shareholders following a public share issue by ERA. Foreign companies own the remaining 24.2 per cent.

- 17 It was announced that the Commonwealth Government had completed negotiations in Frankfurt for a DM200 million (\$A96 million) private placement of bonds through Deutsche Bank to refinance a DM200 million public issue which was to mature on 1 October. The bonds, to mature in 1987, had an issue price of par and a coupon of 8.25 per cent.
- 28 The Commonwealth Government announced the receipt of the Foreign Investment Review Board Report for 1979–80, which showed a 65 per cent increase to \$5,808 million in the total anticipated expenditure associated with all proposals approved during the year.
- 30 The North-West Shelf gas project partners—Woodside, Shell, BP, Cal Asiatic and BHP—signed individual contracts to supply 10.9 million cubic metres of natural gas a day to the West Australian State Energy Commission.

October 1980

- 3 It was announced that the Commonwealth Government had agreed to advance \$10 million immediately to the severely drought affected States against payments that the Commonwealth could be expected to make later in the year. Following a meeting of Commonwealth and State officials on 15 October, the Commonwealth made available an advance of \$20 million to N.S.W., with the original \$10 million being divided between Queensland (\$5 million), Western Australia (\$3.5 million) and Tasmania (\$1.5 million).
- 13 The Commonwealth Government announced that the guaranteed minimum delivery price for wheat to be paid to growers for the 1980–81 season would be \$131.92 per tonne.

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